SONIKA – VOCALOID2 by Zero-G

Owner's Manual

Greetings!

Thank you for purchasing SONIKA powered by VOCALOID2. Your VOCALOID2 software will allow you to create realistic-sounding vocal tracks in a wide range of musical styles using a variety of voices. Whether you use VOCALOID2 for fun or serious sound production, we urge you to read this manual thoroughly in order to take full advantage of the many features and capabilities this extraordinary software package provides. You might want to move the manual files to your hard disk so you can access them quickly and easily while using the software.

Contents

Introduction

System Requirements & Precautions

Installation & Activation
- Installation
- Activation
- On-line Activation
- Offline Activation
- Returning for Later Activation
- Installing and Activating Additional VOCALOID2 Libraries

Getting Started
- Launch the Application
- Play the Demo
- Creating and Playing a Vocal Sequence – Basic Procedure

Reference Section

1. The Interface
- 1-1. The Menus
- 1-2. The Tool Bars
- 1-3. The Sequence Window
- 1-4. The Control Track
- 1-5. The Mixer Window

2. Operation
- 2-1. The Singer
- 2-2. Entering & Editing Notes
- 2-3. Entering & Editing Lyrics
- 2-4. Note Properties 1 – Adding Vibrato & Expression
- 2-5. Note Properties 2 – Phoneme Functions
- 2-6. Expressive Control
- 2-7. Using VOCALOID2 With Other Music Applications

3. Appendix
- 3-1. Phonetic Symbol Charts
- 3-2. Shortcut Keys
- 3-3. Troubleshooting Q & A
- 3-4. MIDI Data Format for VOCALOID2 VSTi
- 3-5. MIDI Data Format for Real-time VOCALOID2 VSTi

Introduction

VOCALOID is a remarkable software application that goes beyond conventional voice synthesis to create “sung” vocal lines and harmonies that, with some careful editing and tweaking, can sound very much like a live singer. The big advantage is that VOCALOID is remarkably easy to use: enter the notes you want VOCALOID to sing via an easy-to-use sequence window, type in the lyrics corresponding to each note, add some vibrato and dynamics, and you have a passable vocal! To take your vocal track to the next level of reality you can use the VOCALOID control track to add real-time control of a number of important parameters that can really bring your vocal sequence to life. And since VOCALOID allows you to create up to 16 tracks you can program realistic sounding choruses, too!

The remarkable realism of the VOCALOID sound is due to the fact that its voice synthesis is based on “VOCALOID Library” databases derived from actual recordings of world-class singers. Additional voice libraries can be added to VOCALOID to provide new voices with different characteristics for expanded expressive capability. The VOCALOID Library data is processed and manipulated via advanced “Frequency-domain Singing Articulation Splicing and Shaping” technology that is the product of many years of in-depth research and development.

VOCALOID can be used on its own, but its real power is to be found in combination with other music sequencing and production software. VOCALOID can be used with ReWire™ capable sequencers and other applications, providing precise synchronization between accompaniments produced using a sequencer and/or hard-disk recording system and the VOCALOID vocal tracks, for example.

VOCALOID2 is a significant upgrade of the original VOCALOID application. It implements a totally new synthesis engine for even more natural, lifelike sound and expression. The interface has also been improved and streamlined for a more efficient workflow. There’s also a VOCALOID2 VST instrument plug-in that you can use with compatible sequencers and music production software for sequencing or real-time performance. You can also export finished VOCALOID2 tracks as WAV files that can be imported into other music applications and integrated with other musical elements with virtually unlimited creative freedom.

VOCALOID2 can be used to create vocal lines and harmonies for serious music production, or it can be just plain fun. Whatever your application you’ll find that with just a little effort and imagination you’ll be able to create vocal tracks that are remarkably lifelike with real musical depth.

System Requirements

Minimum System

• Windows XP.
• Pentium 4, 2 GHz / Athlon XP 2000+ or faster.
• 512 MB of RAM or more.
• Hard disk space: Depends on the size of singer library.
• XGA Display (1024x768).
• Sound Card.

Recommended System

• Windows XP.
• Pentium 4, 2.8 GHz / Athlon 64 2800+ or faster.
• 1 GB of RAM or more.
(2 GB of RAM or more recommended in using real-time VOCALOID2 VSTi.)

Precautions & Notes

• Installation and activation of VOCALOID2 require that either the computer on which VOCALOID2 is installed is connected to the Internet, or you have access to a separate Windows XP computer that is connected to the Internet.
• ReWire™ is a product of Propellerhead™ Software. ReWire and Propellerhead are trademarks of Propellerhead Software.
• VST is a trademark of Steinberg Soft- und Hardware GmbH.
• Windows is a trademark of the Microsoft Corporation.
• Neither the Yamaha Corporation or its subsidiaries will respond to inquiries regarding this owner's manual or the operation of this software. Please direct all inquiries to your local distributor or the developer of your specific software package.

• VOCALOID2 can load and convert files created by the original VOCALOID application for use with VOCALOID2. The original VOCALOID application, however, cannot read files created by VOCALOID2.

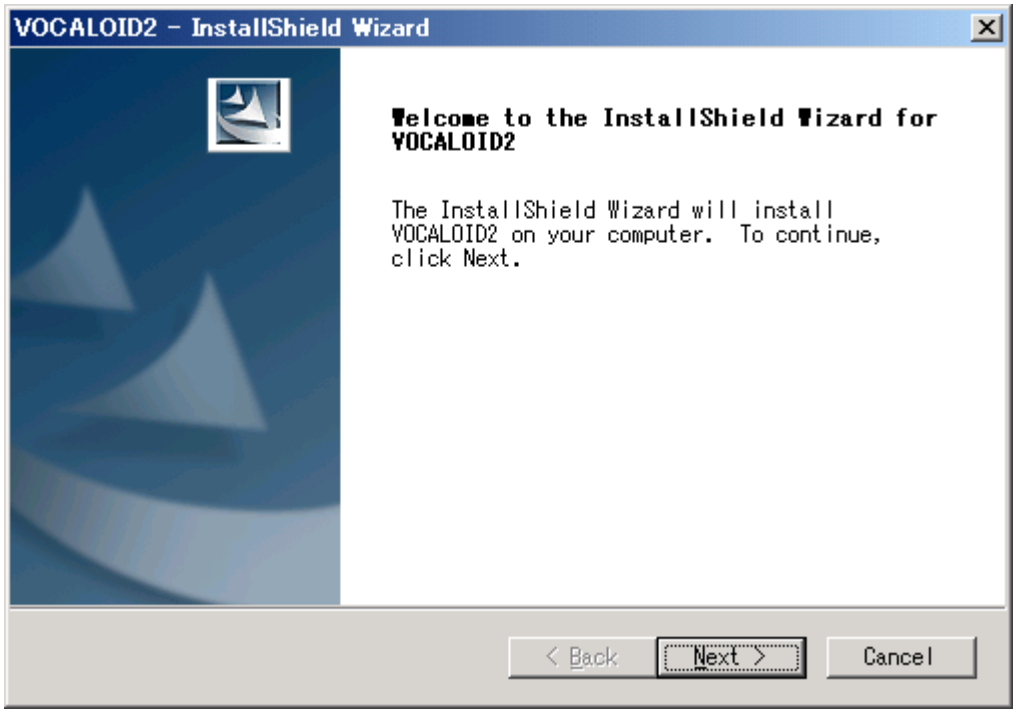
Installation & Activation

After purchasing your VOCALOID2 Library package you will need to install the software on your computer and, either at the same time or some time soon thereafter, activate the software by connecting to the VOCALOID2 activation server via the Internet. But don't worry if you can't connect to the Internet immediately, you can still use VOCALOID2 for an initial period without activating it. Also, you don't need to be connected to the Internet while you are using VOCALOID2, just for the brief activation process.
But first, installation …

Installation

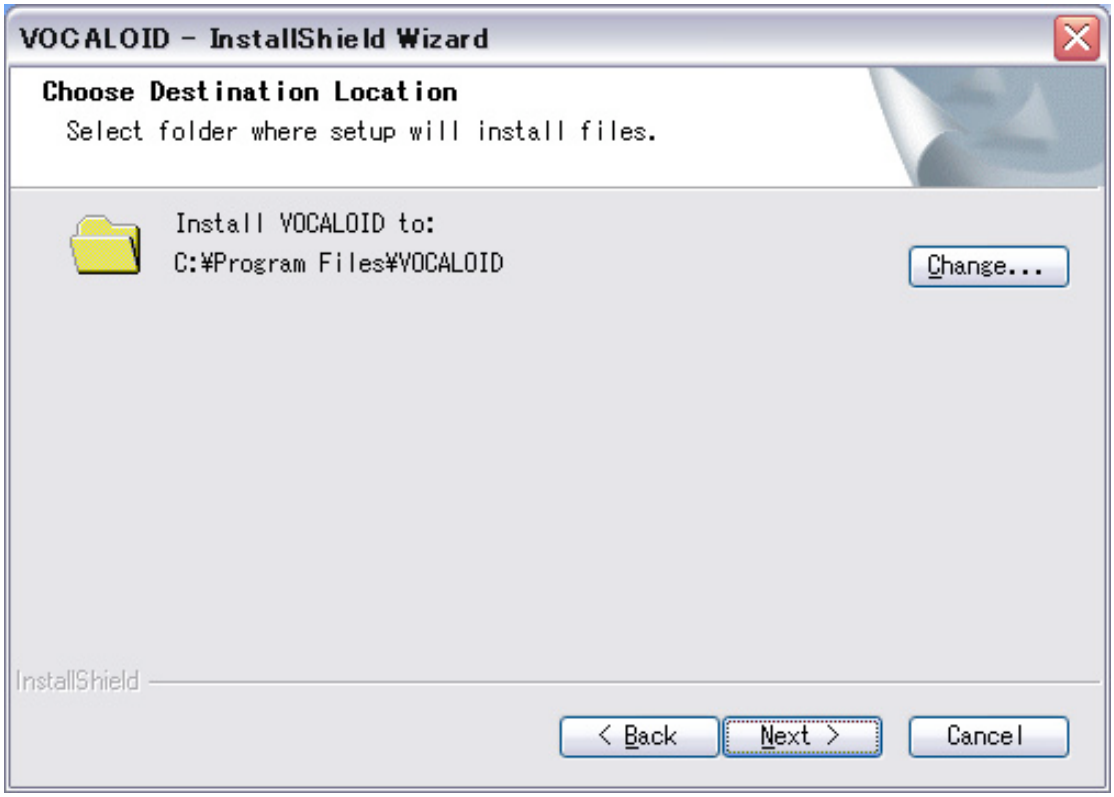
Assuming you have checked the system requirements for VOCALOID2 and your system conforms to the specified requirements, you're ready to install.

1. Insert the VOCALOID2 Library DVD-ROM in your DVD-ROM drive and close the drive door.
The VOCALOID2 Install Wizard should launch automatically when the DVD-ROM is loaded, but if it doesn't open the **Sonika** Folder on the DVD-ROM icon and double-click the "setup.exe" file it contains.

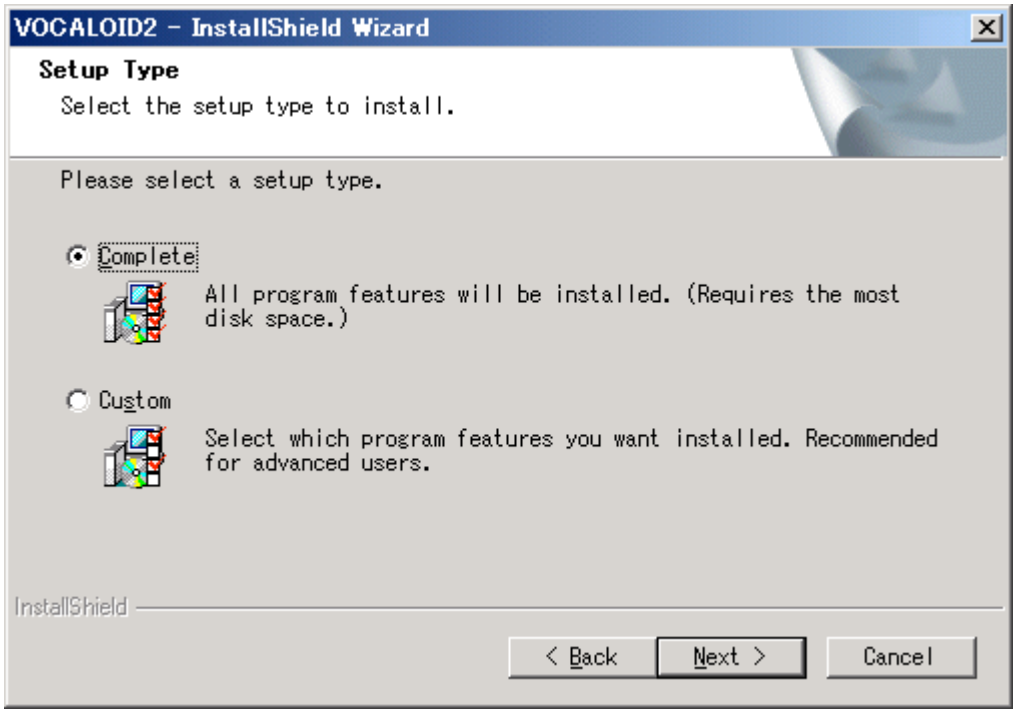

VOCALOID2 - InstallShield Wizard
Welcome to the InstallShield Wizard for VOCALOID2
The InstallShield Wizard will install VOCALOID2 on your computer. To continue, click Next.
< Back
Next >
Cancel

Depending on your VOCALOID2 package, a serial number entry window may appear at this point. Enter your serial number, then click [OK].

2. The install wizard will begin by asking you where you want to store the VOCALOID2 files. The default setting should be fine in most cases, but you can specify any other location. When ready click [NEXT].

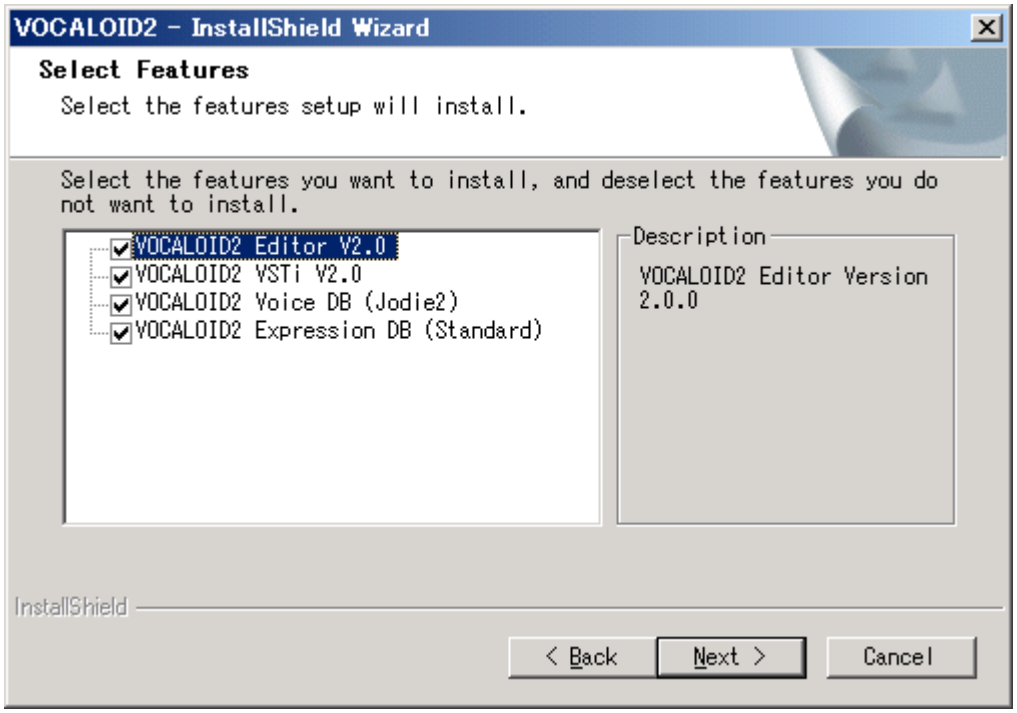


3. Next you will be asked whether you want to perform a complete or custom installation. In most cases you should select “Complete” and click [NEXT], allowing the install wizard to install the required files for you. If you do choose the “Custom” install option, you will be presented with a list of installable files that you can select as required:


VOCALOID2 - InstallShield Wizard
Setup Type
Select the setup type to install.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Select which program features you want installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

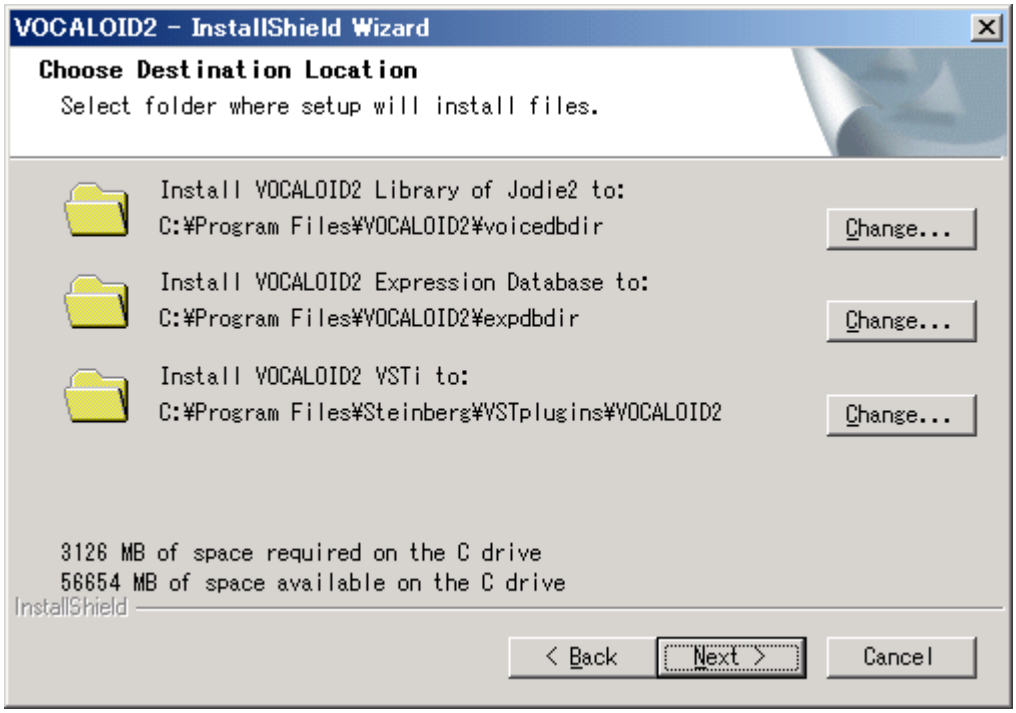
File	Description
VOCALOID2 Editor	The VOCALOID2 Editor application is essential to create VOCALOID2 sequences. You will need this file.
VOCALOID2 VSTi	If you have a sequencing/recording application that is compatible with VST instruments you might want to install this plug-in.
VOCALOID2 Voice DB	The voice database that specify the singer(s) you have available. Necessary.
VOCALOID2 Expression DB	Another database used to create vibrato and other types of expression. Also necessary.

Files available for custom installation:


VOCALOID2 - InstallShield Wizard
Select Features
Select the features setup will install.
Select the features you want to install, and deselect the features you do not want to install.
VOCALOID2 Editor V2.0
VOCALOID2 VSTi V2.0
VOCALOID2 Voice DB (Jodie2)
VOCALOID2 Expression DB (Standard)
Description
VOCALOID2 Editor Version 2.0.0
InstallShield
< Back
Next >
Cancel

4. Next the install wizard will ask where you want to install the VOCALOID2 voice database, expression database, and VSTi plug-in.

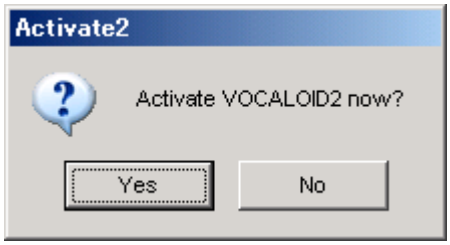
Normally you will want to place these items in the default folders, but you can choose any location on a high-speed mass storage device that you prefer. If you're not sure about this, simply ignore this step and click [NEXT] … which will take you to the activation process after the VOCALOID2 software has been installed and configured …



Activation

Depending on the libraries provided with your VOCALOID2 package, you may have to perform the activation procedure described below before you have unlimited use of the application.

5. The "Activate VOCALOID2 now?" dialog window will appear. Here's where you need to decide whether you are going to activate your VOCALOID2 software via the Internet now or later.



Important notes about software activation:

• You can choose [NO] at this point to acquire temporary activation (the exact length of your temporary activation period will depend on the supplier of your VOCALOID2 package). No Internet connection is required for temporary activation.

• After activation you do not need to be connected to the Internet or a network to use VOCALOID2, but the LAN card or hard disk you used for activation must remain installed in your computer. You can select to use a LAN card or hard disk for activation later during the activation process.

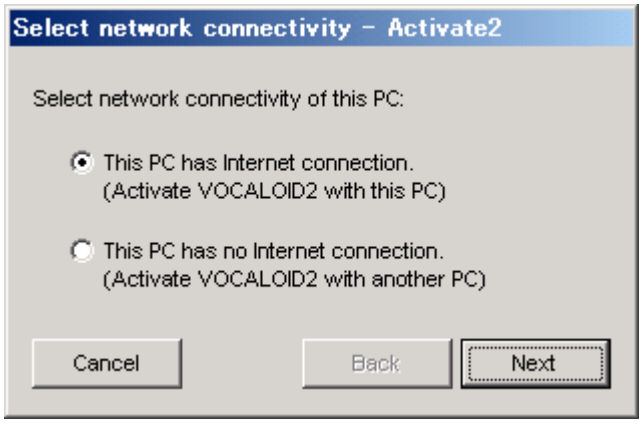
• If you install a different activation device (LAN card or hard disk) than the one that was used for activation in your computer, you will need to perform the activation step again. You can change the activation device and re-activate up to three times. After the third device change and re-activation the VOCALOID2 server will not be able to issue an activation key and you will need to contact the supplier of your VOCALOID2 package for further activation.

• An off-line activation option is available for users who do not want to connect their computer to the Internet at any time (see below).

From the “Activate VOCALOID2 now?” dialog window click [NO] to begin your temporary activation period, or if you want to begin the activation process click [YES].

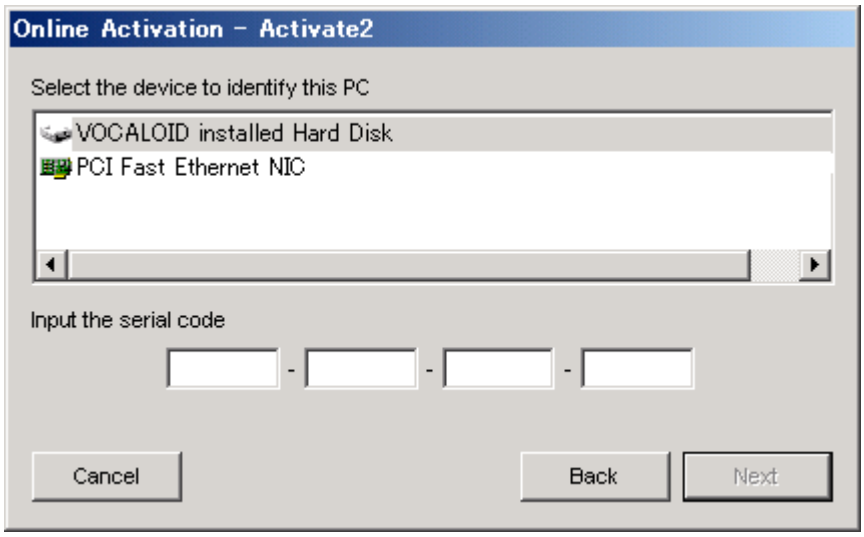
6. If you selected [NO] in the above step you can go ahead and use your VOCALOID2 software for a limited time.
If you selected [YES], or have returned for activation by selecting “Activate” from the VOCALOID2 folder in your computer’s Start menu application list, the “Select network connectivity – Activate2” window will appear. Click the “This PC has Internet connection.” button if you want to go ahead with on-line activation, or the “This PC has no Internet connection.” button to proceed with off-line activation.* Click [NEXT].

> * Offline activation requires two computers: the computer on which VOCALOID2 is installed (not connected to the Internet), and a second computer which will be used for activation (connected to the Internet). Details are given in the “Offline Activation” section.



On-line Activation

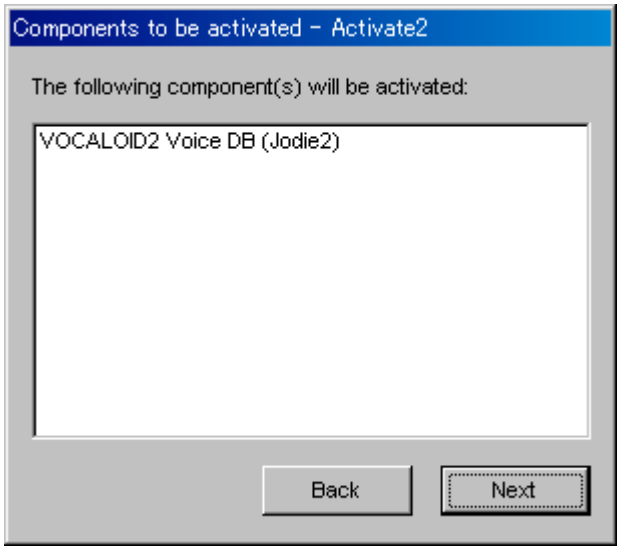
7. If you selected “This PC has Internet connection.” In the previous step, a window like the following will appear:



At the top of the window is an area in which you can select the activation device. The hard disk on which the VOCALOID2 software is installed is the default device. You can alternatively choose a LAN card, but we recommend that you use the default device.
Below the device selection list is the serial code entry field. Enter the 16-character serial code included in your VOCALOID2 package and click [NEXT].
If you get an “Invalid serial code” message check your serial code carefully and try again.

8. A dialog window showing the VOCALOID2 components to be activated will appear. Click [NEXT] to perform the activation. Your

computer will automatically connect to the VOCALOID2 server and download the key required for permanent activation.



9. When the activation key has been successfully received from the server the “Activation successful” window will appear. Click [OK] and follow the on-screen instructions to begin using your VOCALOID2 software.

If the activation fails:

Check your Internet connection and LAN card. Also check that you entered the correct serial number – e.g. make sure you haven’t entered a number from a different library package.

Offline Activation

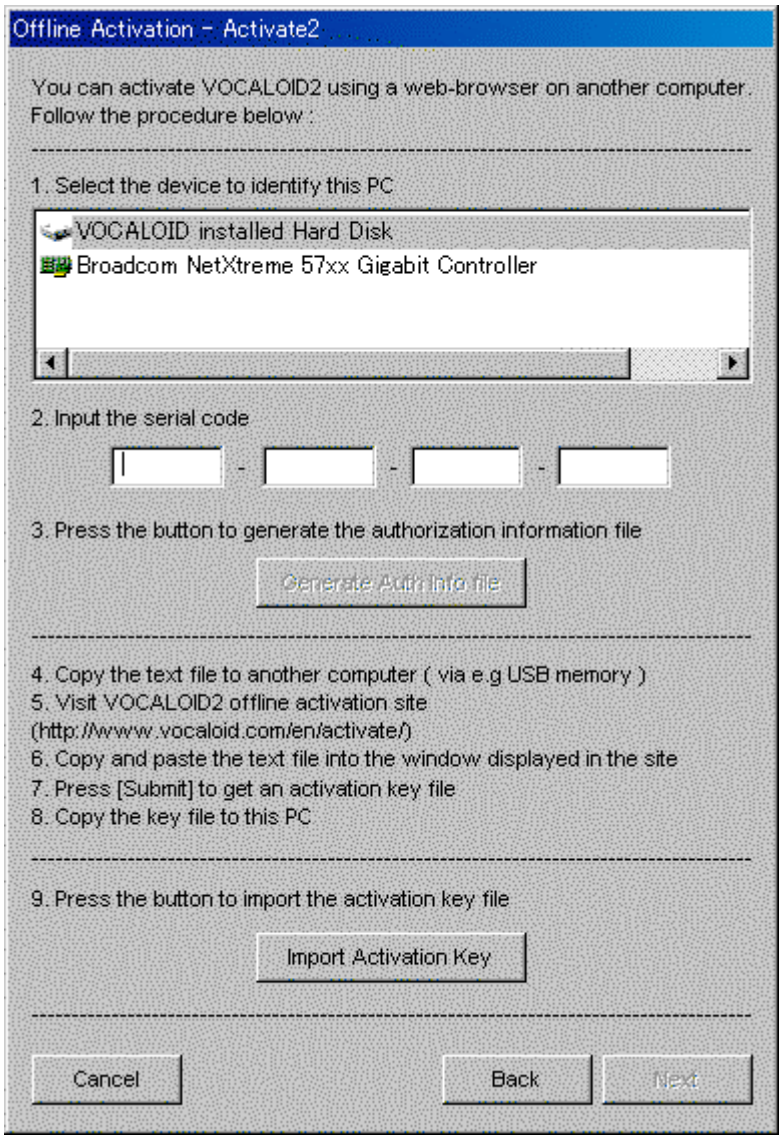
7. If you selected “This PC has no Internet connection.” In step 6, above, you can begin the offline activation procedure described below.

For offline activation you will need access to two computers:

Computer 1: This is the computer on which you will install VOCALOID2. Computer 1 does not need to be connected to the Internet.

Computer 2: This is the computer you will use for activation. It must be connected to the Internet (a dial-up connection is OK).

After you select “This PC has no Internet connection.” and click [NEXT], a window like the one shown below will appear:

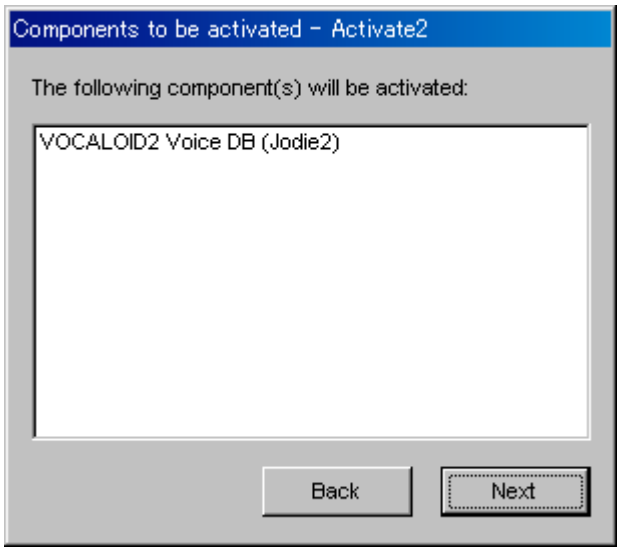

Offline Activation - Activate2
You can activate VOCALOID2 using a web-browser on another computer.
Follow the procedure below :
1. Select the device to identify this PC
VOCALOID installed Hard Disk
Broadcom NetXtreme 57xx Gigabit Controller
2. Input the serial code
3. Press the button to generate the authorization information file
Generate Auth Info file
4. Copy the text file to another computer (via e.g USB memory)
5. Visit VOCALOID2 offline activation site
(http://www.vocaloid.com/en/activate/)
6. Copy and paste the text file into the window displayed in the site
7. Press [Submit] to get an activation key file
8. Copy the key file to this PC
9. Press the button to import the activation key file
Import Activation Key
Cancel
Back
Next

At the top of the window is an area in which you can select the activation device. The hard disk on which the VOCALOID2 software is installed is the default device. You can alternatively choose a LAN card, but we recommend that you use the default device.

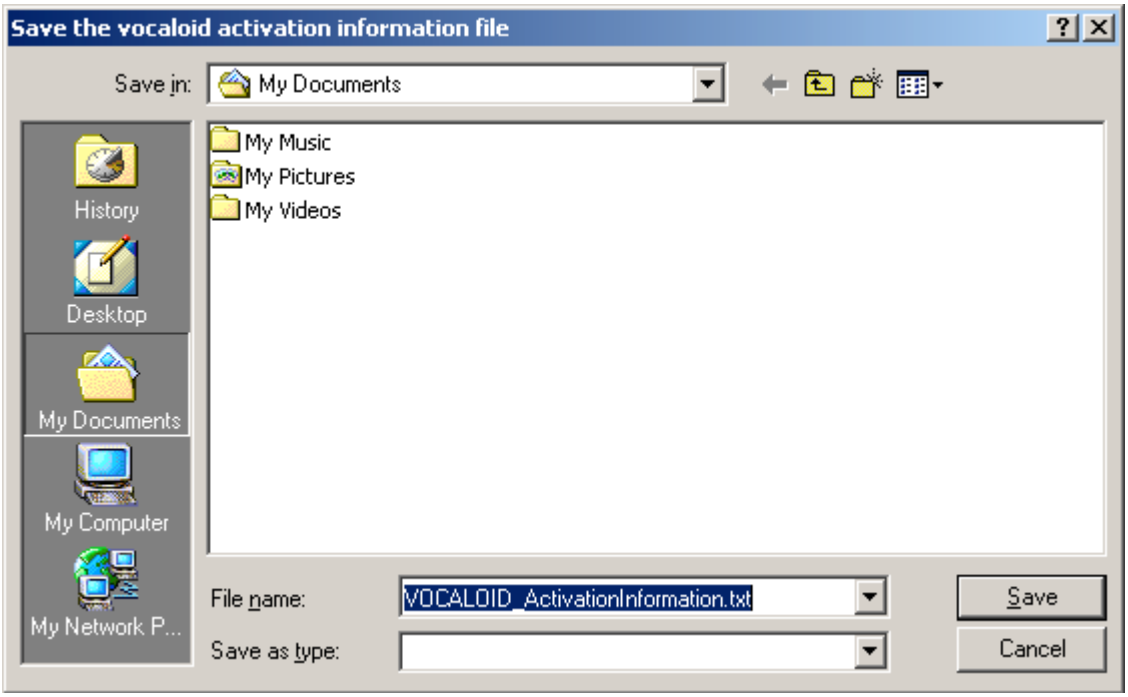
Below the device selection list is the serial code entry field. Enter the 16-character serial code included in your VOCALOID2 package and click [Generate Auth Info File].

If you get a “Invalid serial code” message check your serial code carefully and try again.

8. A dialog window showing the VOCALOID2 components to be activated will appear. Click [NEXT] to generate the authorization code.



9. Click the [Save] button.

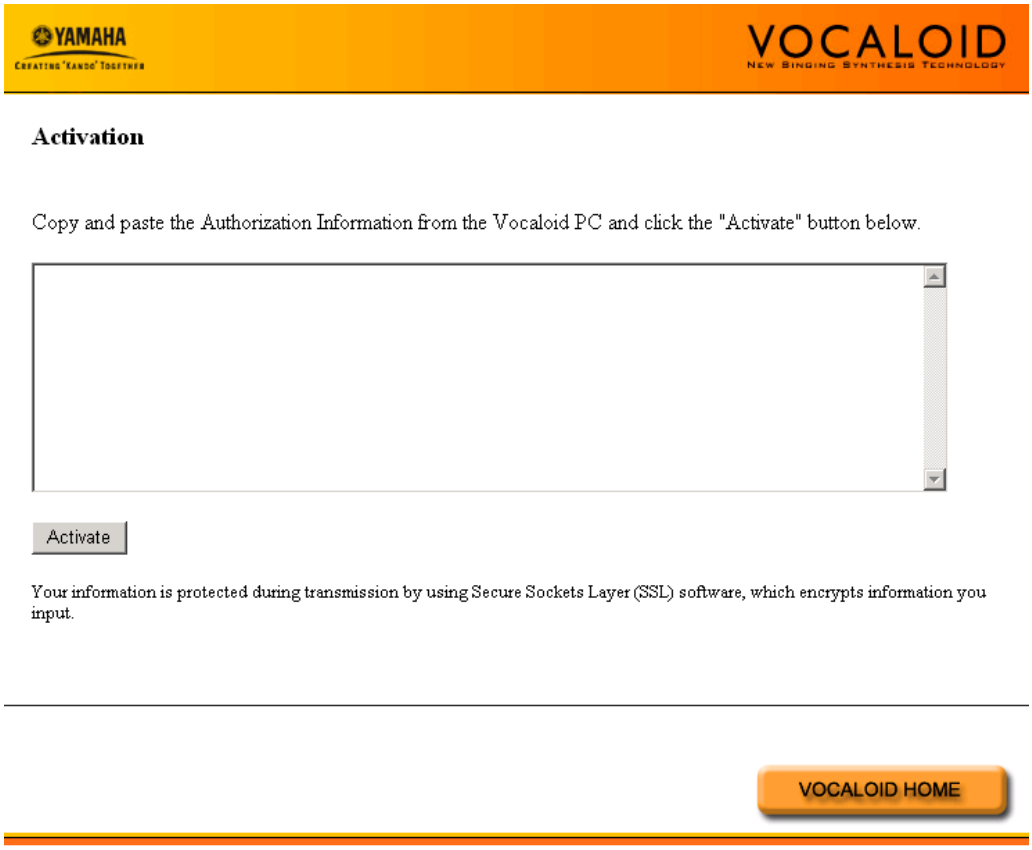


The “VOCALOID_ActivationInformation.txt” file contains information about your PC hardware setup that is required for activation. Save this file to a floppy disk, USB memory, or other memory device and transfer the file to Computer 2 (the computer that is connected to the Internet). Leave Computer 1 running as it is.

10. Open your Internet browser on computer 2 and go to the VOCALOID offline activation site:

http://www.vocaloid.com/en/activate

You should see the following in your browser window:

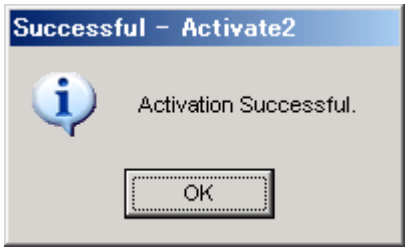

YAMAHA
VOCALOID
NEW SINGING SYNTHESIS TECHNOLOGY
Activation
Copy and paste the Authorization Information from the Vocaloid PC and click the "Activate" button below.
Activate
Your information is protected during transmission by using Secure Sockets Layer (SSL) software, which encrypts information you input.
VOCALOID HOME

11. Open the authorization file in your text editor, copy the text string it contains (be sure to copy the entire string) and paste it into the "Activation" window on the VOCALOID website, and then press the [Activate] button.

12. Download the "VOCALOID_ActivationKey.txt" file generated by the website, and save it to a floppy disk, USB memory, or other storage device.

13. Transfer the "VOCALOID_ActivationKey.txt" to computer 1.

14. Click the [Import Activation Key] button in the VOCALOID2 Offline Activation window (which should still be open on computer 1), select the "VOCALOID_ActivationKey.txt" file in the window that appears, and click [Open].



If all has gone well you should see the VOCALOID “Activation Successful” message, and you’re done!

That completes the offline activation procedure.

Returning for Later Activation

If you initially initiated your temporary activation period but are ready to perform the actual activation step, select “Activate” from the VOCALOID2 folder in your computer’s Start menu application list and proceed from step5, above.

Installing and Activating Additional VOCALOID2 Libraries

The installation procedure for adding additional VOCALOID2 libraries is exactly the same as outlined above. You will still need to activate your new VOCALOID2 library as described above, but only the newly-added component(s) will need to be activated.

Getting Started

Launch the Application

After installation and activation, you should have a “VOCALOID2 Editor” icon on your computer’s desktop. Double-click the icon to launch the VOCALOID2 Editor application.

Play the Demo

With a little work and careful editing you can use VOCALOID2 to create vocal tracks that are almost indistinguishable from live singers. This software package includes one or more demo sequences (depending on the supplier of your VOCALOID2 Library) that have been crafted to give you an idea of some of the VOCALOID2’s advanced capabilities.

To play the demo, go to the File menu after launching the application and select “Open …”. In the file selection window navigate to the “Demo” folder on your VOCALOID2 DVD-ROM and double click one of the demo midi files it contains.

Once the demo file has loaded you can start playback by clicking the on-screen transport “play” button , or by pressing the [SPACE] or [ENTER] key on your computer’s keyboard. The demo sequence will stop automatically when the end is reached, but you can also stop playback at any time by clicking the on-screen transport “stop” button , or by pressing the [SPACE] or [ENTER] key on your keyboard. You can move the position pointer back to the beginning of the

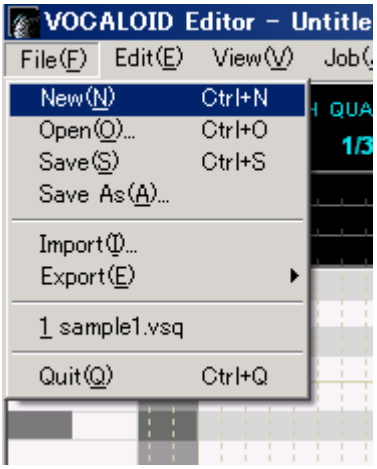
sequence in order to play it again simply pressing the [.] (period) key on your keyboard.

Creating and Playing a Vocal Sequence – Basic Procedure

Once you know the basic procedure, creating vocal tracks is actually quite easy. In this section we'll show you the steps you might use to create a short vocal phrase. This is just one example, and once you are familiar with the way VOCALOID2 works you will undoubtedly find a procedure that works best for you. Also, since the actual results will depend on the specific VOCALOID2 library or libraries you are using, we can't accurately predict how the example will sound, but this short exercise will get you started with the basics.

Step 1: Create a New Sequence

You already know how to launch the VOCALOID2 application (double-click the VOCALOID2 Editor icon on your desktop), and when you do a new "empty" sequence will automatically be created for you. If you have entered any data or made any changes you might want to create a fresh new sequence before proceeding with the example. Do this by selecting "New" from the File menu (see 1-1. The Menus -> File).



Step 2: Select a Singer

This step will actually depend on what VOCALOID2 Library or Libraries you have installed. If you only have one singer, there's nothing to select.

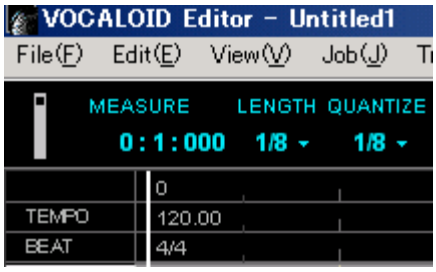
Drag the scroll bar at the bottom of the sequence window (see 1-3. The Sequence Window -> Sequence Track) to the beginning of the track.

You should now see the icon for the default singer at the beginning of the "SINGER" control track. Double-click the singer icon to select a different singer (if you have others available - see 2-1. The Singer -> Selecting a Singer).

Step 3: Set the Initial Tempo and/or Time Signature

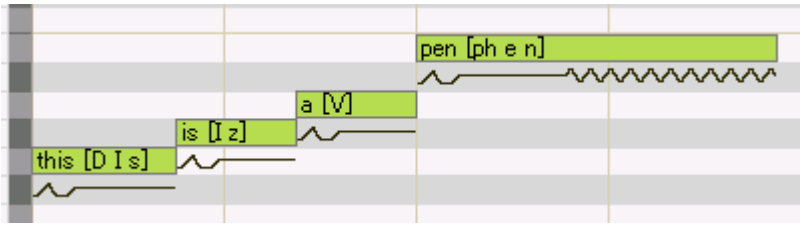
While you are at the beginning of the sequence, take a look at the left edge of the rulers above the sequence window - MEASURE, TEMPO, and BEAT - and you will see the initial tempo and time signature

settings at the beginning the TEMPO and BEAT rulers, respectively. You can double-click on either of these values to change their value as required (details in 1-3. Sequence Window -> Rulers).



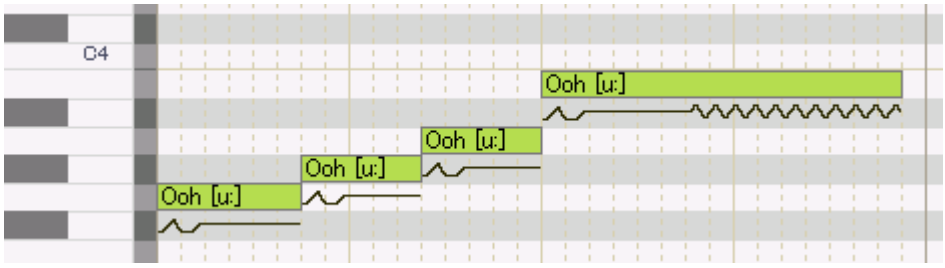
Step 4: Enter the Notes

Here's the score for our short example – only four notes so it should be easy.



Click on the pencil tool button to select it (see 1-2. The Tool Bars -> The Edit Bar).

Then, starting at measure number 1 in the sequence track (you may need to drag the scroll bar to locate it), use the pencil tool enter the four notes so your sequence track looks like this:

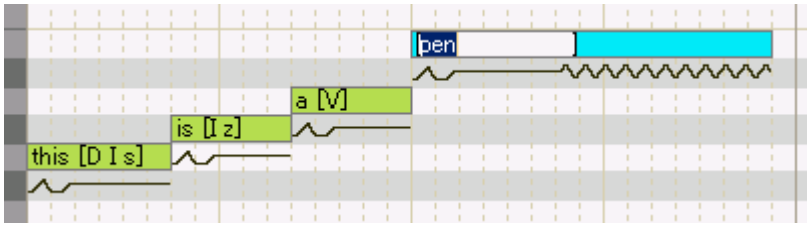


If you have a steady hand you can freely click and drag the notes to the required length, but it's probably easier to use the VOCALOID2 quantization and length functions, or the preset note lengths. You'll find details on the quantize and length settings in 2-2. Entering & Editing Notes -> Quantize vs. Length, and more detailed note-entry information in 2-2. Entering & Editing Notes .

Step 5: Enter the Lyrics

Now let's enter some lyrics for the four notes we just entered. To prevent accidental note entry go back to the tool buttons and select the pointer tool .

Now we'll enter the phrase "This is a pen" (don't ask why). You should see the default lyric – "ooh" – followed by the corresponding phoneme representation in each of the notes you entered. More information on "phonemes" is provided in 2-5. Note Properties 2 – Phoneme Functions. Double click the "ooh" in the first note to enter the lyric editing mode, then enter the first word "this" (capitalization is not required), and press [Enter] on your computer keyboard. Repeat this for the remaining three notes, entering one word per note. Your sequence should now look like this:



More information on lyric entry and editing can be found on 2-3. Entering & Editing Lyrics.

Step 6: Play – Initial Check

Now you can play back your basic track to hear how it sounds and check that the software has produced the lyrics and pronunciation you had intended. At this point only the default expression (note expression and vibrato) has been added to the track. We'll learn how to modify the expression and add dynamics a bit later.

For now move the sequence track to a position a bit before the first note in your track (you can do this by clicking briefly in the MEASURE ruler at the appropriate location (see 1-3. The Sequence Window -> Rulers), and then start playback by clicking the on-screen transport "play" button, or by pressing the [SPACE] or [ENTER] key on your computer's keyboard. The sequence will stop automatically when the end is reached, but you can also stop playback at any time by clicking the on-screen transport "stop" button, or by pressing the [SPACE] or [ENTER] key on your keyboard. And remember that you can skip back to the beginning of the sequence after it is has stopped by pressing the [.] (period) key.

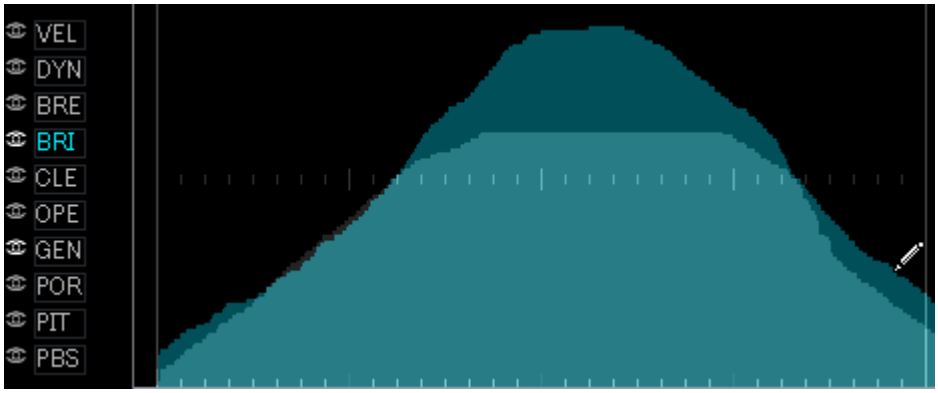
More information on the transport controls

is available in 1-2. The Tool Bars -> The

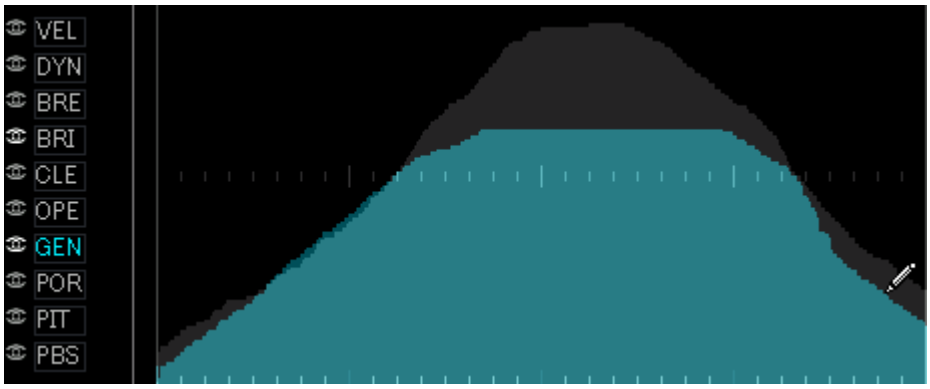
Transport Bar. You might also find the Start and End markers handy for playing back your sequences. Find out about them in 1-2. The Tool Bars -> The Measure Bar -> Show / Hide Start and End Markers.

Step 7: Add Control

And the final touch to our first track – some parameter control. Start by selecting the "BRI" (Brightness) parameter in control menu, then use the pencil tool to draw a curve as close as possible to this one:



Next select "GEN" (Gender Factor) in the control menu and draw a curve as close as possible to the one shown here:



The control track is essential to the in-depth tweaking that can bring your vocal tracks to life. Find out more about it in 2-6. Expressive Control -> Editing a Control Track.

Step 8: Play – Check the Results

OK, now play the track again and hear how it sounds. Better?
The actual expressive variations produced by the control parameters will depend on the VOCALOID2 library you are using, so it is not possible to accurately predict the results, but your vocal track should be sounding pretty interesting at this point. Now you can edit and tweak on your own to get a better feel for how the parameters interact with the voice. Descriptions of the voice parameters are provided in 2-1. The Singer -> Customizing the Singer's Voice.

Step 9: Add a Track

Although each VOCALOID2 track is strictly monophonic (notes cannot overlap), a VOCALOID2 sequence can have as many as 16 separate tracks.

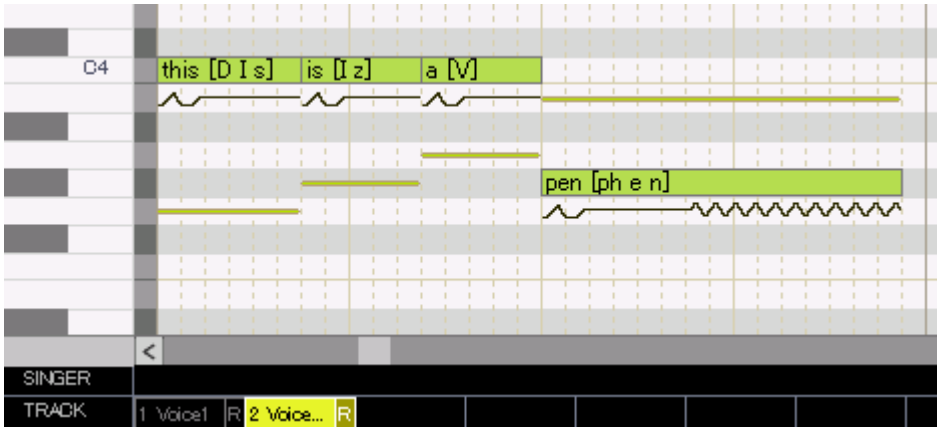
Add a new track to your sequence by selecting "Add Track" from the Track menu (see 1-1. The Menus -> Track). You can now select either of the two tracks for editing by clicking the track selectors at the bottom of the sequence window (see 1-3. The Sequence Window -> Sequence Track). The track selector of the currently selected track is highlighted.

For now, delete the track you just edited by first clicking its track selector and then selecting “Delete Track …” from the Track menu. Click [Yes] in the confirmation window to delete the track.

Step 10: Copy Track 1 To Create a Chorus

Here’s a quick and easy way to create a chorus. Select track 1 (the initial “This is a pen” track you created above), and select “Copy Track” from the Track menu. You will now have a new track containing the same data as your original track.

The first thing you’ll probably want to do to create a chorus is select a different singer for the second voice (if you have one). Obviously a combination of different singers is going to sound more realistic than copies of the same singer, but you could also use the same singer and simply change the singer’s vocal characteristics via the control track (see 1-4. Control Track). You could even create a variation of the singer in the Singer Editor (see 2-1. Singer -> Customizing the Singer’s Voice). Next you can change the pitches of the notes to create harmonies by simply dragging them up or down the appropriate pitches. Here’s a harmony track that works with our original “This is a pen” track:



Later we'll learn how you can adjust the second singer's note expression, vibrato, and other parameters to give him or her some individuality while maintaining the best possible musical blend.

Step 11: Save Your Sequence

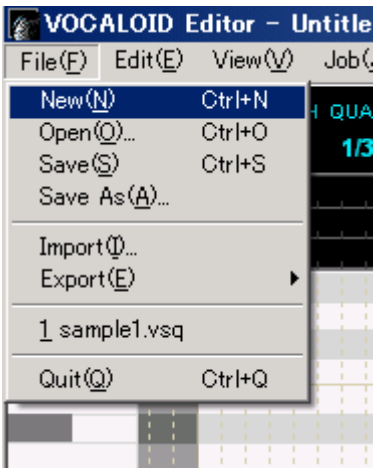
When your masterpiece is complete you'll want to save it for posterity. Select the "Save" item from the File menu and follow the standard file save procedure (see 1-1. The Menu -> File).

Reference Section

1. The Interface

1-1. The Menus

File



With the exception of "Import" and "Export," the items in the File menu are pretty much standard and should be intuitive to use.

New

Create a new VOCALOID2 sequence file. When you select this function you will be asked if you want to save the current sequence file. Select [YES] to enter a name for the current sequence (if necessary) and save it before opening a new file, [NO] to discard the current sequence and open a new file, or [CANCEL] to abort the operation.

Open

Open an existing VOCALOID2 sequence file. When you select this function you will be asked if you want to save the current sequence file if it has been edited in any way. Select [YES] to enter a name for the current sequence (if necessary) and save it before opening another file, [NO] to discard the current sequence and open a different file, or [CANCEL] to abort the operation.

Once you have saved or discarded the current sequence the standard open-file dialog will appear, allowing you to navigate to and open the desired VOCALOID2 sequence file.

Save

When saving a new file this command will open the standard save-file dialog window. To save a file specify the location to which you want to save the file, enter the file name, and click [SAVE]. If the file has been saved previously, selecting the Save command will simply overwrite the file without opening the Save dialog window.

Save As …

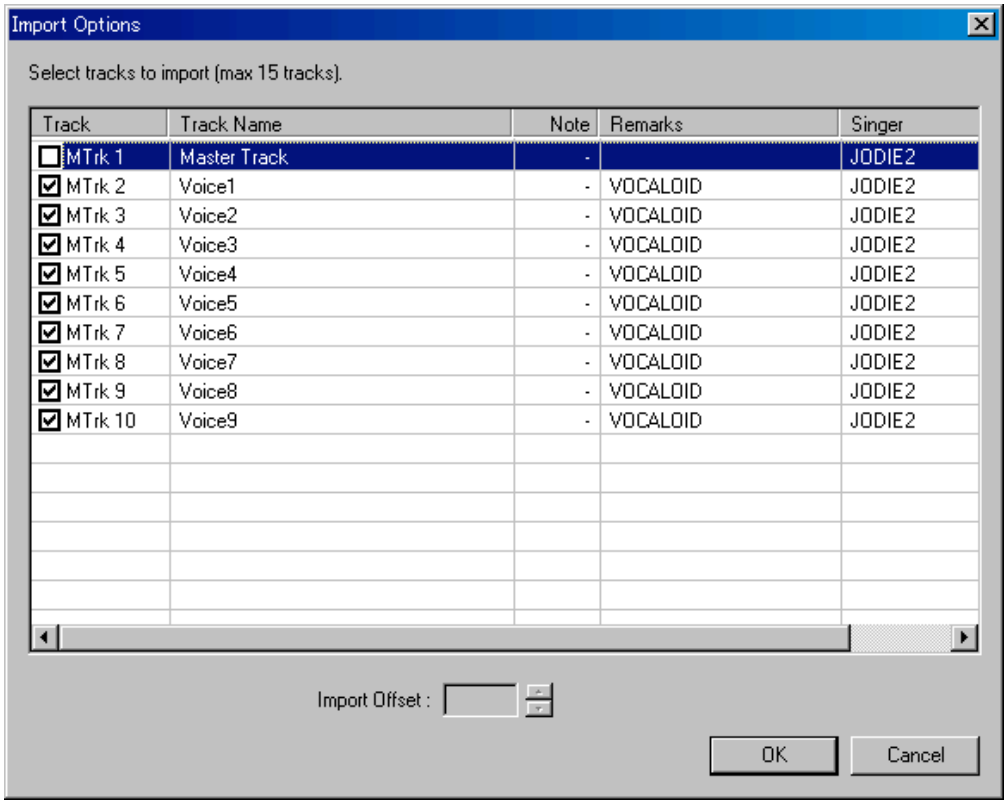
Save the current sequence file using a new name, leaving the previously saved version untouched. Specify the location to

which you want to save the file, enter the file name, and click [SAVE].

Import …

This function lets you import SMF files (Standard MIDI Files) from other sequencers or applications, VOCALOID files from the original VOCALOID application, and VOCALOID2 files when you want to merge VOCALOID2 projects (see below), for example. The imported MIDI data can include both note data and lyrics that can be converted to data that can be sung by VOCALOID2.

> **Importing and Merging Files**
>
> You can use the Import function to merge a second file into one that's already open. This capability can be used to import and merge SMF files, files created by the original VOCALOID application, and VOCALOID2 files. When you select the Import function and open the file you want to merge into the current project, an Import Options window will appear that allows you to choose the tracks you want to import.



Selected tracks will be imported and numbered above the tracks in the project that is already open. Just remember that VOCALOID2 allows up to 16 simultaneous tracks, total.

Export >

Wave File

This function exports the current sequence as a standard wave-format (WAV) audio file. The standard save-file dialog will appear: specify the location to which you want to save the wave file, enter a file name, and click [SAVE].

VOCALOID2 MIDI

This function exports the current VOCALOID2 note and lyrics data as a MIDI file that can be used by the VOCALOID2 VSTi plug-in.

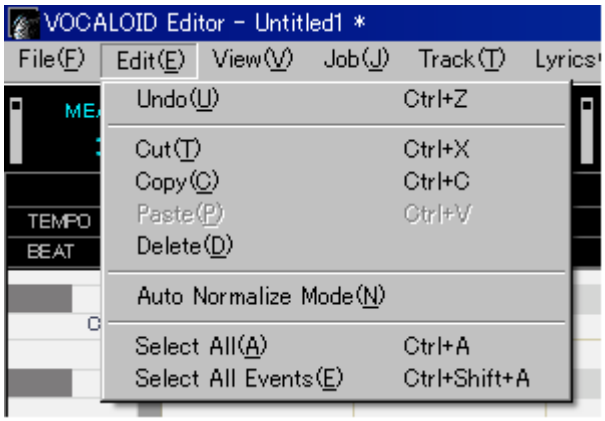
Recent File

The name of the most recently created or opened file will be displayed here. Simply click the name to directly open the file.

Quit

Click “Quit” to quit the VOCALOID2 Editor application. If the current sequence file has been edited in any way you will be asked if you want to save the current sequence file before quitting the application. Select [YES] to enter a name for the current sequence (if necessary) and save it before quitting, [NO] to discard the current sequence and quit, or [CANCEL] to abort the operation.

Edit



The Edit menu items are fairly standard and should be familiar to anyone who has used a word processor or other music sequencer application.

Undo

This function can be used to “undo” the last edit operation in most cases. If you make an edit and then decide you want to undo it, be sure to use the Undo function immediately after performing the editing and before performing any other

operation. The “Undo” item will also “redo” a previously undone edit. So after making an edit you can use the Undo item to switch back and forth between the edited and pre-edit version for comparison … or simply to change your mind.

Cut

Copy

Paste

The Cut, Copy and Paste editing commands are similar to the equivalent commands in most other applications, and can be used with objects in the sequence track and control track. “Cut” and “Copy” will cut or copy an object you have highlighted (single-click), or a group of objects you have highlighted by clicking and dragging with the pointer tool. There are, however, a few things to keep in mind.

• When you cut/copy and then paste notes or control-track data, it will be pasted at the current position indicator location (the vertical line in the sequence and control tracks).
• Please remember that overlapped notes within the same track will not play back (they will be displayed in grey), and that any pasted control data will overwrite the existing data.

Delete

Deletes the currently selected data object(s).

Auto Normalize Mode

When this function is turned on notes entered in the sequence track are normalized “on the fly” so that overlapping notes do not have to be located and rectified later on. If a note is entered so that it overlaps another note in the track, the first note will be truncated to eliminate the overlap. Refer to the “Normalize

Notes" item in the Job menu (see 1-1. The Menus -> Job) for more information. This function is alternately checked (ON) or unchecked (OFF) each time it is selected.

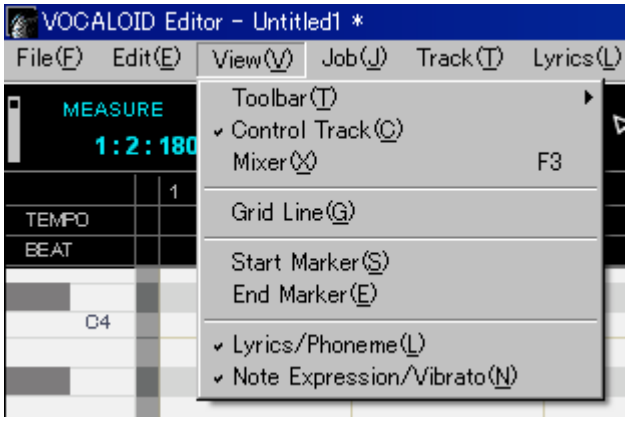
Select All

This item will select all notes and data in the current sequence and control tracks.

Select All Events

This item will select all "events" in the current sequence track (i.e. all notes with their associated expression and vibrato).
If you select "Select All Events" from the contextual menu that appears when you right-click in the control track area (see 1-4.The Control Track), all data for the control parameter currently being edited will be selected.

View



The items in this menu what palettes and data types will appear or be hidden. A check mark will appear to the left of items that are currently showing.

Toolbar

This item accesses a submenu that lets you individually hide or show the Measure, Edit, and Transport toolbars. The related toolbar is showing when a check appears next to its name in this submenu. The Reset Toolbar item resets the toolbars to their default state.

Control Track

This item hides or shows the control track at the bottom of the VOCALOID2 window. The Control Track item is alternately checked (show control track) and unchecked (hide control track) each time it is selected.

Mixer

Shows or hides the VOCALOID2 mixer window that contains mix controls for each individual track within the sequence as well as a master level control (1-5. The Mixer Window).

Grid Line

Shows or hides grid lines corresponding to the currently selected grid size in the sequence track. The grid lines can serve as a useful visual guide when entering or moving notes (see 2-2. Entering and Editing Notes).

Start Marker

End Marker

These items show or hide the start or end markers, respectively (see 1-2.The Tool Bars ->The Measure Bar -> Show/Hide Start and End Markers). They are alternately checked (show marker) or unchecked (hide marker) each time they are selected.

Lyrics/Phoneme

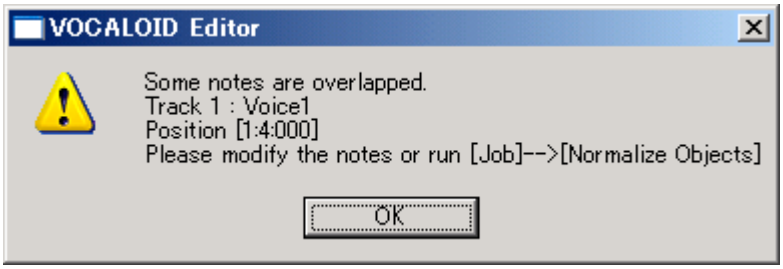
Note Expression/Vibrato

These items all show or hide the corresponding data objects in the sequence track. They are alternately checked (show data) or unchecked (hide data) each time they are selected.

Job

The Job menu includes a function that can help eliminate overlapped notes, and several others that provide considerable flexibility for modifying the current track.

Normalize Notes ...
Resolves all instances of overlapping notes in the current track by shortening (truncating) the first note of all overlapping pairs. If you attempt to play a track that contains overlapped notes an error window shown below will appear and the position indicator will move to the location of the first note overlap it encounters so you can fix the situation as required. You can either modify the notes yourself to eliminate the overlap, or simply run the "Normalize Notes" job.



Insert Bars …

This function provides a convenient way to insert a specified number of bars at any point in the current sequence. Select the Insert Bars job then select the “Position” (i.e. the bar at which you want the new bars to be inserted) and the “Length” (i.e. the number of bars to be inserted) via the pop-window that appears, then click [OK]. The Insert Bars function can only be selected if the sequence contains data, and the “Position” can only be set within the range of bars that contain data.

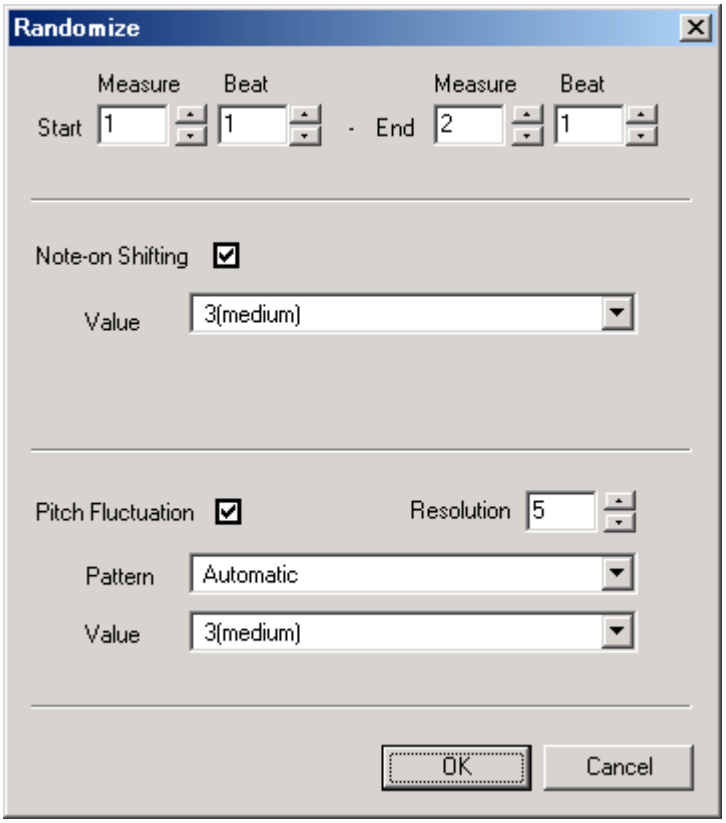
Delete Bars …

Delete Bars provides an easy way to delete any number of bars from a track. Data following the deleted bars will be moved back. This is different from simply deleting the data, in which case the subsequent data is not moved back. To delete a number of bars select the Delete Bars job and select the “From” and “To” points via the pop-window that appears, then click [OK]. To delete the third bar from a four-bar sequence, for example, you would need to select “From 3” and “To 4”.

Randomize

By producing slight variations in note timing and pitch, this job can give VOCALOID2 tracks a more natural, human feel. After selecting the Randomize job, use the “Start” and “End” parameters at the top of the Randomize window to specify the measures and beats at the start and end of the segment you want to randomize. If you want the note timing to be varied make sure that the “Note-on Shifting” checkbox is checked, then select the amount of note shift variation to be applied via the “Value” parameter. If you also want to apply pitch variation, make sure that the “Pitch Fluctuation” checkbox is checked. For pitch variation you can select either the “Automatic” pattern or one of the other patters that will produce different types of pitch

variation. The “Resolution” parameter determines how smooth or coarse the pitch variation waveform is: lower values produce a smoother variation. The “Value” parameter sets the depth of the pitch variation.



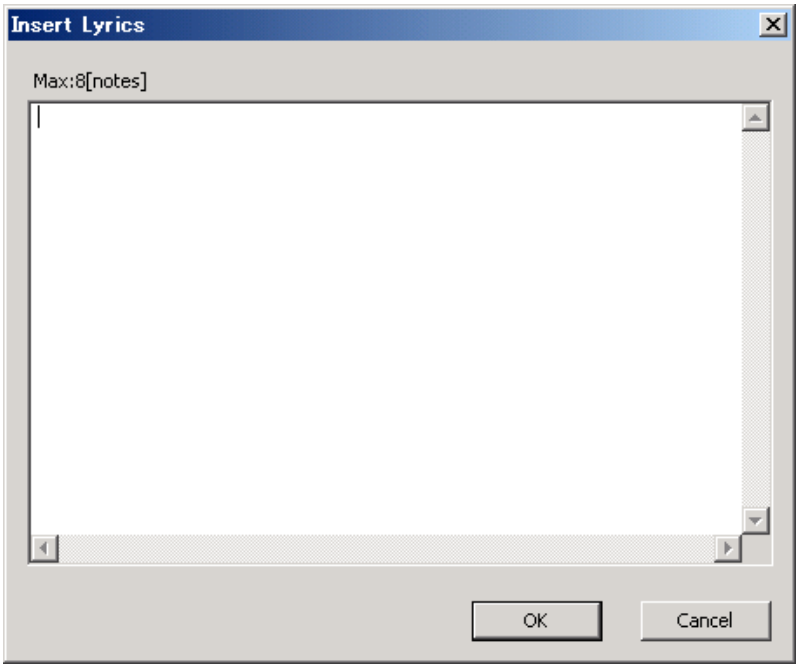
Connect Notes

Notes can easily be “connected” to create a legato feel using this job. Select the notes you want connected in the sequence track, then select the Connect Notes job. Click [OK] in the confirmation window that appears and the ends of the selected notes will be extended to meet the attack of the subsequent notes.

Insert Lyrics

Instead of individually entering the lyrics for each note in a sequence, you can use the Insert Lyrics job to automatically enter entire phrases.

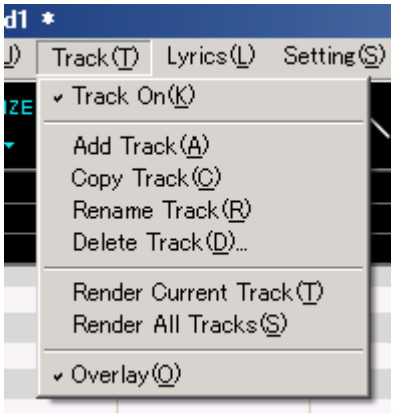
Click the first of the notes into which you want to insert new lyrics, then select the Insert Lyrics job. A text edit window will appear into which you can simply type the lyrics you want inserted. The number of available notes following the selected note will be shown at the top of the text window. One syllable will be entered in each note. For example, the three words “I love you” would require three notes, but the single word “inferno” would also require three notes (in-fer-no). Words or syllables that exceed the number of notes available will be truncated. When you have typed the required lyrics in the text box click the [OK] button and the lyrics will be entered in the notes.



Import ReWire Host Tempo

This function acquires the tempo data from a ReWire host application to which VOCALOID2 is connected, allowing precise synchronization.

Track



A VOCALOID2 sequence can have up to 16 different tracks, allowing you to create entire choruses using a variety of “singers,” for example. The items in this menu provide access to a range of useful functions for managing your tracks.

Track On

This “switch” turns the currently selected track on or off. This item is alternately checked (track ON) or unchecked (track OFF) each time it is selected. This provides a convenient way to temporarily mute tracks as well as to reduce the load on the computer’s CPU.

Add Track

Creates a new empty track with the default track name.

Copy Track

Creates a copy of the current track. The copy track will have the same name as the source track, followed by a number in parentheses.

Rename Track

Allows a new name to be entered for the current track – the name in the track selector of the current track will switch to

text-edit mode when this item is selected. You can also directly rename tracks by double-clicking the appropriate track selector.

Delete Track

Deletes the current track. When this item is selected a confirmation dialog will appear allowing you to either proceed with the delete operation (click [YES]), or abort the delete operation (click [NO]).

Render Current Track

Render the current track to lighten the load on the computer's CPU, thus facilitating smooth playback. See 1-4.The Control Track -> The Track Tabs and Render Controls for more details.

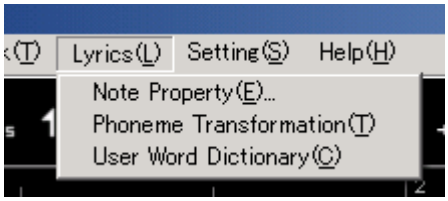
Render All Tracks

Render all tracks to lighten the load on the computer's CPU, thus facilitating smooth playback. See 1-4.The Control Track -> The Track Tabs and Render Controls for more details.

Overlay

Determines whether or not you can see the notes in hidden tracks in the current track window. When this item is checked, notes in hidden tracks appear lightly shaded in the current track window. When the Overlay item is not checked you can only see the contents of the current track.

Lyrics



This menu provides access to functions that affect the way VOCALOID2 interprets lyrics, as well as some expression controls.

Note Property

The Note Property window lets you edit the note's expression, vibrato, and lyric/phoneme. See 2-4.Note Property 1-Adding Vibrato and Expressions for details on the editing functions available via the Note Property window.

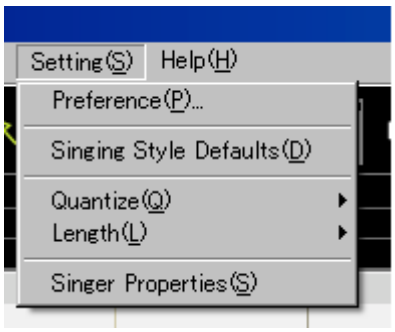
Phoneme Transformation

This function transforms lyrics imported with a MIDI file into data that can be sung by the VOCALOID2 application. Phoneme Transformation does not have to be executed when you enter lyrics via the VOCALOID2 interface, only when you import lyrics with a MIDI file via the File menu "Import …" command.

User Word Dictionary

Opens the User Word Dictionary for editing and addition of new words. VOCALOID2 comes with a basic dictionary that produces appropriate pronunciations for most lyrics, but the initial dictionary might not be able to transform all of the words you want to use in your lyrics. Any additional words can be entered in the VOCALOID2 User Word Dictionary so your freedom to enter lyrics is essentially unlimited (see 2-5.Note Property 2 - . Phoneme Functions -> The User Word Dictionary).

Setting

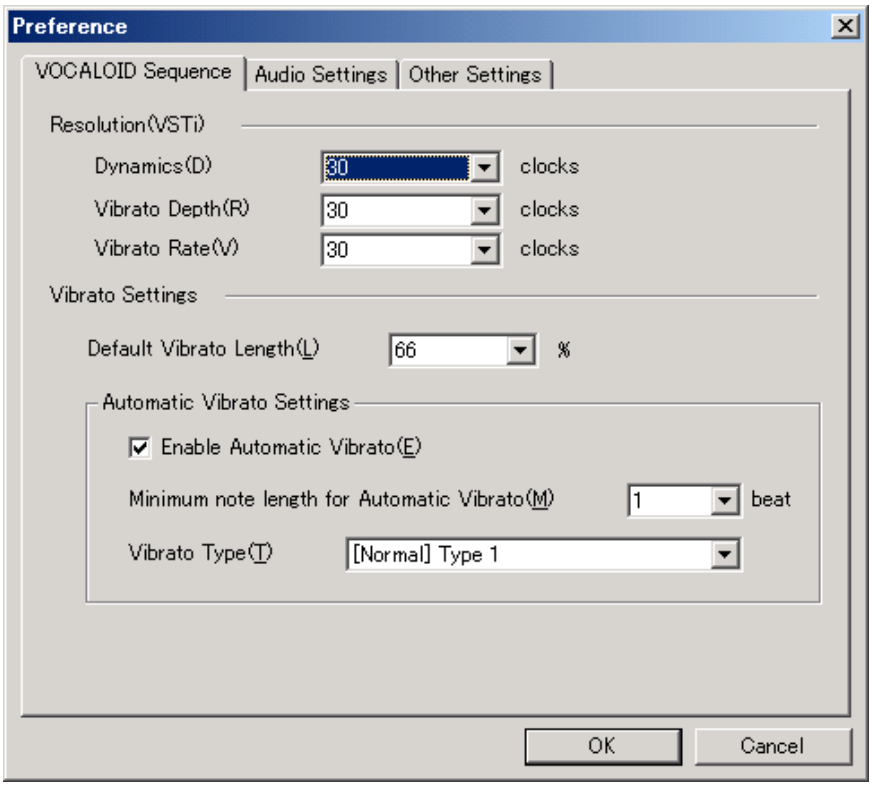


This menu includes a number of settings that determine the basic operation and performance of the VOCALOID2 Editor application.

Preference

This item opens the tabbed VOCALOID2 “Preference” window, allowing access to the parameters described below.

“VOCALOID2 Sequence” Tab



Resolution (VSTi)

These parameters adjust the resolution in clocks (480 clocks per quarter note) at which the dynamics and vibrato

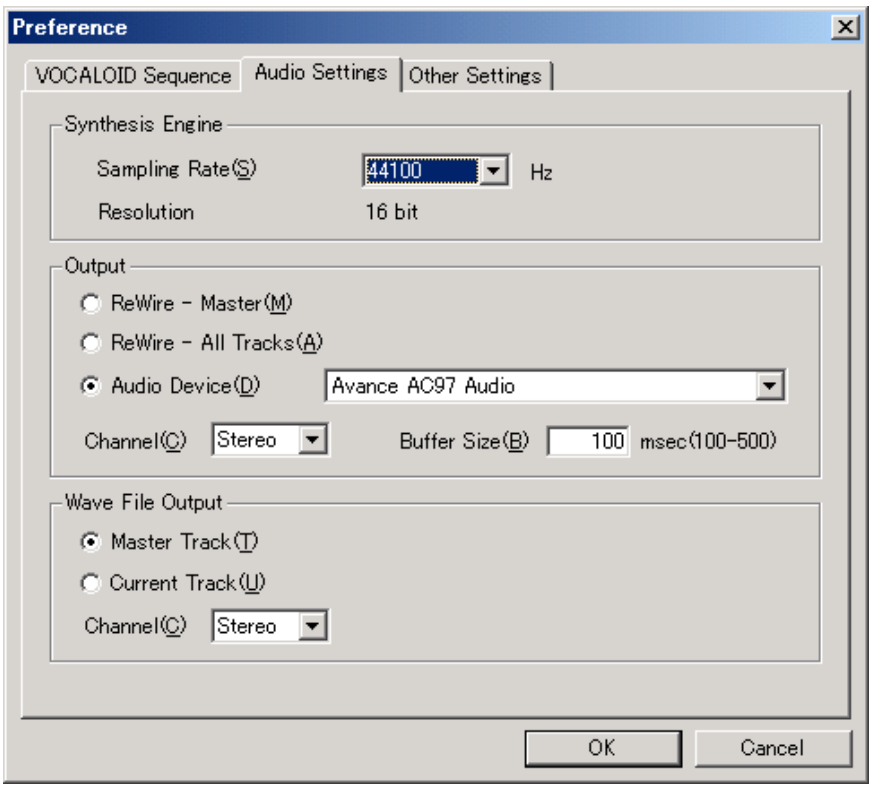
depth/rate changes will occur. If the changes sound uneven or “stepped” to you, try increasing the resolution (i.e. set a smaller number).

Vibrato Settings

The “Default Vibrato Length” parameters specifies the length of the vibrato applied to notes as a percentage of the note length. Select one of the presets from the drop-down menu.

The “Automatic Vibrato Settings” specify whether or not vibrato will be automatically applied to entered notes. Vibrato will be applied automatically if the “Enable Automatic Vibrato” checkbox is checked. You can specify the shortest notes to which vibrato will be automatically applied (in beats) via the “Minimum Note Length for Automatic” Drop-down menu, and the type of the vibrato that will be applied via the “Vibrato Type” drop-down menu.

“Audio Settings” Tab



Synthesis Engine

Here you have the sampling rate setting for the VOCALOID2 synthesis engine. The resolution is fixed at 16 bits. The available sampling rate settings will depend on the sound output device (normally your sound card) that you are using.

Output

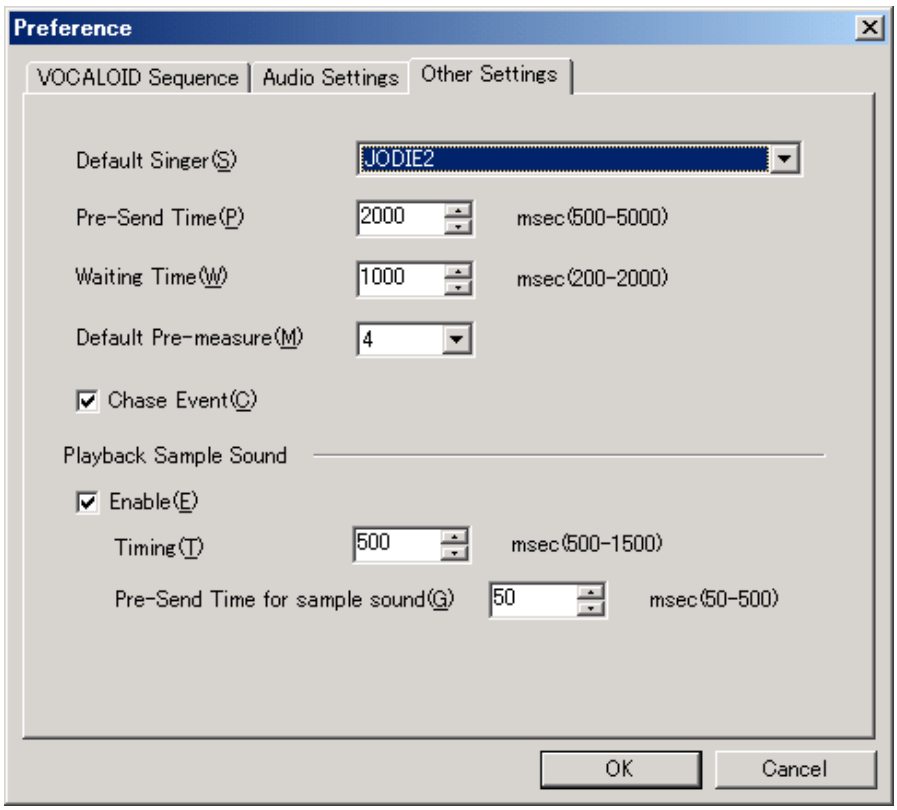
When the “Audio Device” radio button is selected, VOCALOID2 output is sent directly to your computer’s audio device. If you have more than one audio device installed you can select the one to which you want to send the VOCALOID2 output via the “Output” selection menu. The “Channel” parameter lets you select stereo or mono output. The “Buffer” parameter can be used to set the audio output buffer from 100 to 500 milliseconds to

match the capabilities of your computer and audio output device.
Select the “ReWire - Master” or ReWire - All Tracks” when using VOCALOID2 in conjunction with a ReWire-capable sequencer or other application: select “ReWire – Master” to connect the master VOCALOID2 output, or “ReWire – All Tracks” to connect the VOCALOID2 tracks individually.

Wave File Output

The parameters in this window specify details of the WAV file to be exported via the “Export …” item in the File menu (see 1-1. The Menus -> File->Export). The “Master Track” and “Current Track” radio buttons let you specify whether all tracks are exported as a single WAV file (“Master Track”), or only the current track is exported (“Current Track”). When “Mono” is selected two mono files are exported, although the output level of the files will depend on the setting of the pan control in the mixer window (see 1-5. The Mixer Window).

“Other Settings” Tab



Default Singer

This parameter determines the default singer for new tracks.

Pre-Send

In much vocal delivery a portion of the sound will appear a little before the beat. This is not syncopation, but rather to allow for the initial acoustic buildup of some sounds (“s” is a good example). In order to recreate such natural advanced sounds as realistically as possible, VOCALOID2 must send the triggering MIDI data to the VOCALOID2 synthesis engine a little earlier than a conventional synthesizer would. This is the “pre-send” time, determined by this parameter.

Waiting Time

This parameter determines the delay time before playback actually begins after the playback command is given. An error message will appear when you attempt to play the track if this parameter is not set to a value that is long enough to allow for the Pre-Send time, above, and Pre-Measure setting, below. If you click “Adjust Pre-send Time” in the warning message window the pre-send time will automatically be adjusted (reduced) to fit within the available number of pre-measures.

Default Pre-Measure

Specifies the number of “pre-measures” before the actual sequence region in the sequence track begins. Pre-measures are indicated by negative numbers in the MEASURE ruler, and are a darker color than the playable region beginning at measure 1.

Chase Event

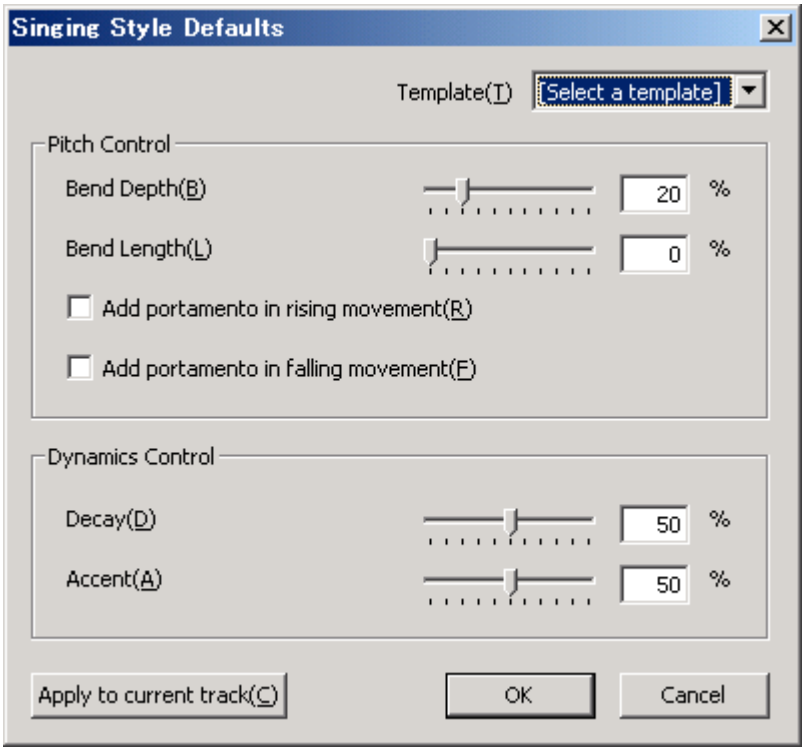
When this box is checked VOCALOID2 will keep track of control events that occur prior to the note(s) they are intended to be applied to, ensuring that control changes and variations are properly applied.

Playback Sample Sound

These settings affect the playback of sample sound when you click on the graphic keyboard to the left of the sequence track, or click and hold on a note in the sequence track. The “Enable” checkbox enables or disables sample sound playback. The “Timing” parameter specifies the length of time you need to click-and-hold the key or note to hear the sample sound, and the “Pre-send Time for Sample” parameter specifies the maximum length of consonants at the beginning of sample playback.

Singing Style Defaults

This window lets you specify the default expression settings for new notes entered in the sequence track. Set the parameters as required and click [OK] to make your settings the defaults. You can also click the [Apply to current track] button to apply the settings to all notes in the current track. In the latter case a confirmation window will appear. Click [Yes] to apply the expression parameters to all notes in the current track, or [No] to cancel.



Template

Load a basic expression type from the drop-down menu. The parameters settings in the window will change accordingly.

Pitch Control

Bend Depth slider (0 ~ 100%)

Bend Length slider (0 ~ 100%)

These two parameters specify the pitch variation that will occur at the beginning of the note. If both sliders are set all the way to the left (0%) no pitch variation will occur. Higher Bend Depth percentages create a pitch variation that covers a greater pitch range, and higher Bend Length percentages create longer pitch variation.

Add portamento in rising movement

When the pitch of a note is higher than that of the preceding note, a smooth upward “portamento” pitch slide will occur at the beginning of the note.

Add portamento in falling movement

When the pitch of a note is lower than that of the preceding note, a smooth downward “portamento” pitch slide will occur at the beginning of the note.

Dynamics Control

Decay slider (0 ~ 100%)

Accent slider (0 ~ 100%)

These two sliders specify the “shape” of the expression at the beginning of the note. Accent increases or decreases the amplitude of the expression, while Decay increases or decreases the length of the decay into the sustained portion of the note following the initial expression portion. The height of the peak on the graphic expression symbol below the note will change to approximately reflect the Accent level.

Quantize >

"Quantize" makes it easy to enter notes right on the beat. You have a choice of note alignments from 1/4 notes to 64th notes, plus triplet variations of all available notes. To select triplets select a note alignment and then select "Triplet" at the bottom of the Quantize menu so that it is checked. The "Triplet" option is alternately checked (triplet note values) and unchecked (straight note values) each time it is selected. When Quantize is "OFF" you can position notes with maximum "clock" resolution (there are 480 clocks per quarter note). Convenient tool-bar selectors and indicators are also provided for access to the Quantize settings (see 2-2. Entering & Editing Notes -> Quantize vs. Length).

Length >

While "Quantize," above, determines alignment of note attack, "Length" determines alignment of the release of notes entered in the sequence track. It therefore determines which beats the end of notes will snap to when stretched. The available values are the same as for "Quantize," above. Convenient tool-bar selectors and indicators are also provided for access to the Length settings (see 2-2. Entering & Editing Notes -> Quantize vs. Length).

Singer Properties

Brings up a window that displays the current singer settings. To edit and customize the singer's voice you'll need to launch the separate Singer Editor application from your computer's START -> Programs -> VOCALOID2 menu (see 2-1. The Singer -> Customizing the Singer's Voice).

Help

Contents and Index

Calls up the Contents and Index listings for the VOCALOID2 on-line help file.

About VOCALOID Editor ...

Brings up the VOCALOID2 splash screen containing the version number and a link to the VOCALOID2 web site.

1-2. The Tool Bars

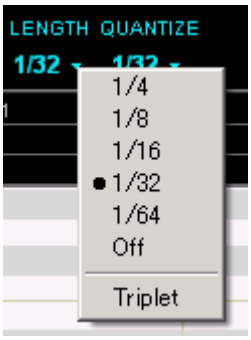
VOCALOID2 has a number of tool bars that provide direct access to a range of important functions. The tool bars can be rearranged in the tool bar area by dragging them by their “handles” on the left edge of each tool bar. The tool bars can also be detached from the tool bar area and placed anywhere on the display simply by dragging. They can be dragged back to the tool bar area as required, or you can simply double-click the top of a detached tool bar to snap it back to its previous location.

The Measure Bar

Cursor Position Indicator

These values tell you exactly where your cursor is located in the VOCALOID2 sequence track. The position is indicated by three values separated by commas – Measure : Beat : Clock. The first value is the number of the current measure, the second value is the beat as determined by the time signature set in the BEAT ruler, and the third value is the current clock position within the beat (there are 480 clocks per quarter note).

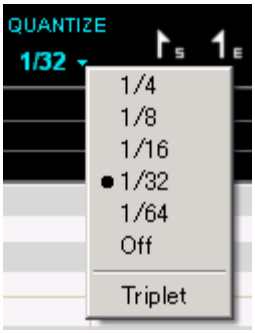
Length



While “Quantize,” below, determines alignment of note attack, “Length” determines alignment of the release of notes entered in the sequence track. It therefore determines which beats the end of notes will snap to when stretched. Click on the LENGTH value to see the menu. You have a choice of note alignments from 1/4 notes to 64th notes, plus triplet variations of all available notes. To select triplets select a note and then select “Triplet” at the bottom of the menu so that it is checked. The “Triplet” option is alternately checked (triplet note values) and unchecked (straight note values) each time it is selected. When Length is “OFF” you can position the ends of notes with maximum “clock” resolution (there are 480 clocks per quarter note). The Length settings are

also available via the Settings menu (see 1-1. The Menus -> Setting -> Length).

Quantize



"Quantize" makes it easy to enter notes right on the beat. You have a choice of note alignments from 1/4 notes to 64th notes, plus triplet variations of all available notes. Click on the QUANTIZE value to see the menu. To select triplets select a note alignment and then select "Triplet" at the bottom of the Quantize menu so that it is checked. The "Triplet" option is alternately checked (triplet note values) and unchecked (straight note values) each time it is selected. Turn the Grid on either via the View menu or the tool bar button to see a grid overlay corresponding to the current quantize setting in the sequence track. When Quantize is "OFF" you can position notes with maximum "clock" resolution (there are 480 clocks per quarter note). The Quantize settings are also available via the Settings menu (see 1-1. The Menus -> Setting -> Quantize).

Show/Hide Start and End Markers

These buttons individually show (activate) or hide (deactivate) the start and end markers that you create by dragging them

from the position marker in the MEASURE ruler (see 1-3. The Sequence Window -> Rulers). The Start and End markers can be dragged from any point in the MEASURE ruler, without having to move the position indicator, by clicking and holding for a second. The start and end markers define the beginning and end points for repeat playback.

Start Marker

Click to show or hide the start marker.

End Marker

Click to show or hide the end marker.

The Edit Bar

These are the main tools you'll use for selecting and editing data in the VOCALOID2 Editor.

Pointer

The pointer tool is used to select already-entered notes and control points for editing. You can use it, for example, to drag notes to different positions or beats, and in some cases double-clicking on a data object will bring up an edit window for that object. You can click and drag with the pointer tool to select multiple notes. If you hold the [Ctrl] key while clicking and dragging you effectively select all data in the section of the track over which you drag, making it possible to subsequently move or copy note and control track data together, for example.

Pencil

The pencil tool is used to enter new notes in the main data window, tempo or beat changes in the TEMPO and BEAT rulers, and controller data in the control track. The cursor automatically reverts to pointer mode when it is moved over the MEASURE ruler or any of the button or menu areas of the interface.

Line Tool

When you click and drag in the control track (see 1-4.The Control Track) when the line tool is selected you will see a "rubber band" line connecting the point at which you initially clicked and the point at which you drag to. The curve or values over the corresponding region will automatically be matched to the line when you release the mouse button.

Eraser

As its name suggests, the eraser will erase any data object you click on.

Show/Hide Grid Line

Click this tool to show or hide the quantize grid in the sequence track. The resolution of the grid is determined by the Quantize parameter (see 1-2.The Tool Bars ->The Measure Bar ->Quantize).

Jump to Position Indicator

If the sequence track position indicator is outside the current view and therefore not visible, you can simply click this tool to instantly jump to the position indicator location.

The Transport Bar

Similar to the transport controls on a tape deck (or just about any music sequencer program) these buttons let you play, stop, and move around within the sequence.

To Top

Click to go directly to the beginning (top) of the track. If the start marker is showing you can jump directly to it by pressing the period [.] key on your computer keyboard.

Fast Reverse

Rapidly scrolls backward through the track while held, or steps backward in one-measure increments if clicked briefly.

Fast Forward

Rapidly scrolls forward through the track while held, or steps forward in one-measure increments if clicked briefly.

To End

Click to jump directly to the end of the track.

Play

Begins playback. If the Repeat button is not engaged playback will stop automatically at the end of the track. Playback

can also be started and stopped by pressing the [SPACE] or [ENTER] key on your keyboard.

Stop

Stops playback. Playback can also be started and stopped by pressing the [SPACE] or [ENTER] key on your keyboard.

Scroll

Turns scrolling on or off. When off the position pointer will move to the right and disappear off the end of the track window when the sequence is played back. This reduces the need for graphics processing, and therefore lightens the load on the computer's CPU during playback. When on, the sequence window will scroll to the right as the sequence plays, always maintaining the position pointer within view.

Repeat

When the repeat button is engaged playback of the track segment between the start and end markers will repeat continuously until stopped by clicking the transport button or by pressing the [SPACE] or [ENTER] key on your keyboard.

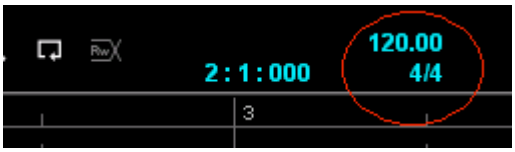
Send Info to ReWire Button

This button only becomes active when VOCALOID2 is properly connected to a ReWire host (see 2-7. Using VOCALOID2 With Other Music Applications -> ReWire™ Synchronization). Before running the sequence you will need to click this button after the last edit has been made to send the necessary track information to the ReWire host. If you make any further edits to the VOCALOID2 track you will need to repeat this step.

Play Position Indicator

These values indicate the current position of the sequence track position indicator. The position is indicated by three values separated by commas – Measure : Beat : Clock. The first value is the number of the current measure, the second value is the beat as determined by the time signature set in the BEAT ruler, and the third value is the current clock position within the beat (there are 480 clocks per quarter note).

Tempo and Beat Indicators



Show the current sequence tempo and beat settings. The initial and subsequent tempo and beat changes can be entered and edited in the TEMPO and BEAT rulers, respectively, described below.

1-3. The Sequence Window

Rulers

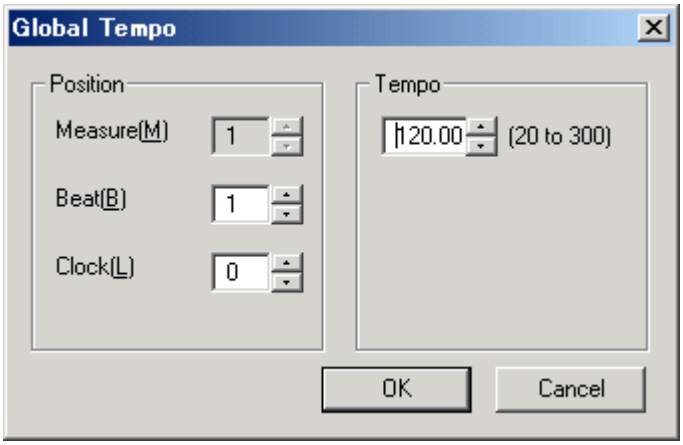
The three “rulers” across the top of the sequence track display and control the track’s time-based functions.

Measure

The line extending down from the MEASURE ruler is the track's position indicator. The indicator will scroll along the track during playback to indicate the current playback position. You can move the position indicator to any point in the track simply by briefly clicking in the MEASURE ruler at the desired location. The position indicator will also jump to positions specified by operation of the transport , , or controls. The start and end markers (see 1-2. The Tool Bars -> The Measure Bar-> Start and End Markers) used to define the repeat playback limits also appear in the MEASURE ruler. The start and end markers can initially be dragged from the position indicator in the MEASURE ruler, and then dragged along the MEASURE ruler to the desired locations (the start marker will always precede the end marker). The start and end markers can also be dragged from any point in the MEASURE ruler – without having to move the position indicator – after clicking and holding for a second.

Tempo

The initial tempo and subsequent tempo changes can be entered and edited in the TEMPO ruler. To edit the initial tempo setting at the very beginning of the TEMPO ruler (you may need to drag the track's scroll handle all the way to the left), double click on it and then edit its value in the window that appears.

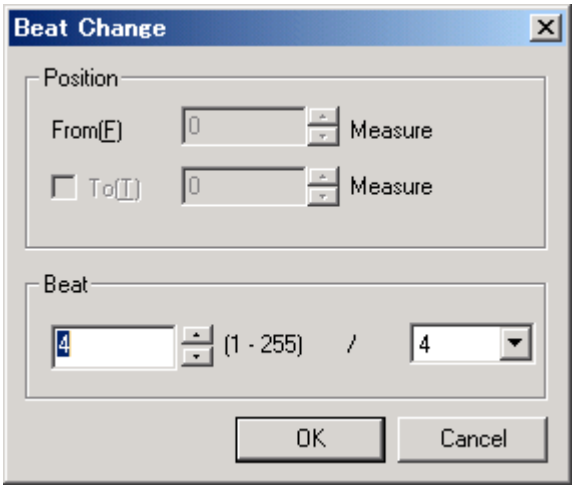


Click [OK] to confirm and enter the tempo change or [CANCEL] to abort.

To enter a tempo change later in the track, click at the appropriate location in the TEMPO ruler with the pencil tool. The tempo window will appear allowing you to enter a new tempo value which will be entered at the point at which you clicked the pencil tool when you click the window's [OK] button. You can also set the precise position of the tempo change using the "Position" parameters in the tempo window (measure, beat, and clock).

Beat

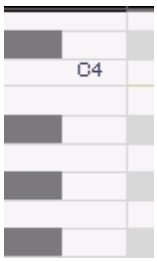
The initial time signature and subsequent time signature changes can be entered and edited in the BEAT ruler. To edit the initial time signature setting at the very beginning of the BEAT ruler (you may need to drag the track's scroll handle all the way to the left), double click on it and then edit the upper and lower values in the window that appears. Click [OK] to confirm and enter the beat change or [CANCEL] to abort.



To enter a time signature change later in the track, click at the appropriate location in the BEAT ruler with the pencil tool. The time signature window will appear allowing you to enter new time signature values which will be entered at the point at which you clicked the pencil tool when you click the window's [OK] button. You can also set the precise position of the time signature change using the "Position" parameters in the time signature window.

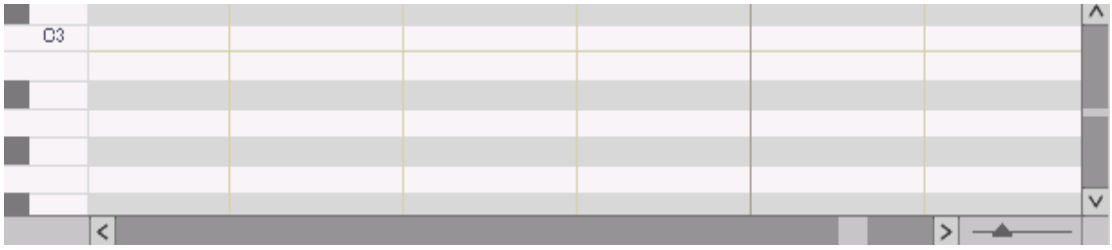
Keyboard

The graphic piano keyboard is a visual guide for note entry. Each key corresponds to a band in the sequence window to the right of the keyboard – white bands correspond to white keys and gray bands correspond to black keys. You can even click on the keys to hear samples of the notes they produce.



Sequence Track

This is where you actually enter the notes and lyrics to be “sung” by VOCALOID2. You begin by entering the desired notes of the desired length. The default lyric is automatically entered for each note (“Ooh” when entering English, for example). You can then double-click on and edit the default lyric for each note to create the desired phrase (see 2-3. Entering and Editing Lyrics). VOCALOID2 will be able to sing the lyrics you have entered – although you’ll have to add dynamics and phrasing control to make the resultant vocal track sound realistic (see 2-4.Note Property1-Adding Vibrato and Expression).



Scroll Bars

The horizontal and vertical scroll bars along the bottom and right edges of the sequence window perform essentially the same functions that they do in a word processor or other program: i.e. click the arrows at either end of the scroll bar to scroll in the corresponding direction, or drag the scroll handle to move to the desired location.

Zoom Slider

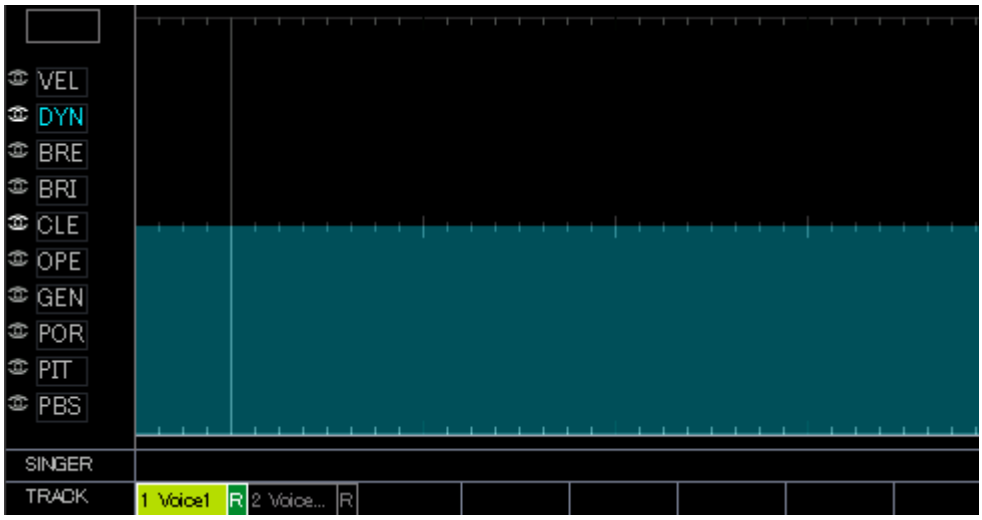
The zoom slider can be used to zoom in or out on the track horizontally. Drag the slider to the right to zoom in for fine note positioning, for example, or drag to the left to zoom out to see a broader overall view of the track.

Right-click Tip: Right-click in the sequence track for conveniently accessible tool selection (see 1-2. The Tool Bars -> The Edit Bar),

quantize section (see 1-2. The Tool Bars -> The Measure Bar ->Quantize), note length selection (see 1-2. The Tool Bars -> The Measure Bar -> Length), and edit items (see 1-1. The Menus ->Edit).

1-4. The Control Track

In addition to specifying the initial singer and singer changes during the sequence, the control track is where you view and edit all other parameters that control the sound of the notes in the sequence track: note velocity, dynamics, and singer parameters such as breathiness, brightness, pitch bend, and more.



Refer to section “2-6. Expressive Control” for details on editing in the control track.

Value Field

The value field above the control track parameter selectors shows the value of the selected parameter at the current cursor position in the control track area. This facilitates precise tool positioning when editing the control track.

View Icons

The view (eye) icons to the left of each parameter selector indicate which parameters are showing in the control track. The currently selected parameter will always show, and you can select one other parameter to view simultaneously. For example, when editing dynamics in the DYN track (or any other continuous variable parameter), it is very helpful to be able to see the velocity values as well, since these appear as vertical bars at the beginning of each note, providing an accurate reference to the timing of the notes to which you are applying control.

Right-click Tip: Right-click in the sequence track for conveniently accessible tool selection (see 1-2. The Tool Bars -> The Edit Bar) and edit items (see 1-1. The Menus ->Edit).

The Track Tabs and Render Controls

Track selector tabs for all tracks you have created in your VOCALOID2 sequence will appear here. Select a track for editing or viewing by clicking the corresponding tab. The track selector tab of the currently active track will be highlighted. Double-click a tab to edit the track name. Colors are automatically assigned to the tabs according to the track number.

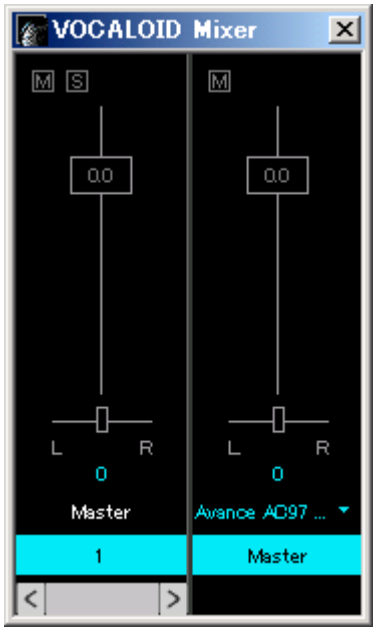
An “R” at the right edge of a track tab means that the track has not been “pre-rendered” and is being synthesized as it is being played. This works OK if you only have a few tracks, but as the number of tracks increases the load on your computer’s CPU may become too

great to allow smooth playback if all the tracks are being synthesized in real time. In fact, VOCALOID2 won't let you play more than four un-rendered tracks simultaneously, and a message will appear asking you to render some of the tracks if you attempt to do so. Individual tracks can be rendered by clicking the "R" on the right edge of the track tab, or you can render all tracks by clicking "RENDER ALL". The track render options are also available in the Track menu.

Right-click Tip: Right-click on any track tab to conveniently access the Track menu items (see 1-1. The Menus -> Track).

1-5. The Mixer Window

The VOCALOID2 Mixer window is a movable floating window that will appear in the display area when the VOCALOID2 Mixer item in the View menu is checked. The window can be dismissed either by clicking the close box in its upper right corner, or by clicking the VOCALOID2 Mixer item in the View menu a second time. The Mixer window provides mix controls for each individual track within the sequence as well as a master level control. A numbered track fader module will automatically be created for each track in your VOCALOID2 sequence.



Track Fader

Each track fader module includes a linear fader for independent level control of the corresponding track. Drag the fader up or down to adjust the level of the corresponding track. “0.0” in the fader knob indicates normal (nominal) level (0 dB). The fader scale ranges from –89.8 through 0 to +5.5. The current fader level is always shown in the fader knob. You can also set the fader level numerically by double-clicking in the knob and editing the value as required.

Pan Control

The pan control for each track is the small horizontal “L—R” slider below the fader. Drag the slider to the left or right to pan the signal from that track to the corresponding side of the stereo output. The pan position is indicated numerically below the pan control. Numerically the pan range is from –64 (full left) through 0 (center) to +64 (full right). You can also set the pan position numerically by double-clicking the current pan value and editing it as required.

Mute Button

Click the button at the top of any module to turn output from that track off. Click again to disengage the MUTE function.

Solo Button

The SOLO function allows “solo monitoring” of individual tracks. If you have created a number of tracks but want to listen to the output of just one, for example, you can simply engage the button for that track rather than having to individually mute all of the other tracks. When the SOLO function is engaged the button for that track will be highlighted while the buttons for all other tracks will be engaged. Click the button a second time to disengage the SOLO function.

Master fader Module

The master fader in the fader module controls the overall output level of all VOCALOID2 tracks. Operation of the master fader, fader level indicator, pan, and mute controls in the master fader module is the same as the corresponding controls in the track fader modules. The main difference is that below the pan control is a drop-down menu that allows the VOCALOID2 master output to be assigned to an available audio device or ReWire™ enabled tracks in another application.

2. Operation – Making VOCALOID2 Sing

2-1. The Singer

The singer is a vocal “entity” defined by the VOCALOID2 Library that will sing the notes and lyrics you enter. The singer can be male, female, and speak just about any language, as defined by the VOCALOID2 Library you are using. In this case it is **Sonika**, a young female popstar singer. You can add other singers by adding optional voice libraries as they become available.

Selecting a Singer

When a new sequence file is created the default singer will be automatically entered at the beginning of the control track (see 1-4. The Control Track). The default singer, and the other singers that are available for selection, will depend on the VOCALOID2 Library you are using. You can change the default singer to any other available singer by double clicking on the singer icon at the beginning of the control track. This will bring up the singer menu with the available singer choice.

Click the name of the singer you want to use.

Changing Singers During the Sequence

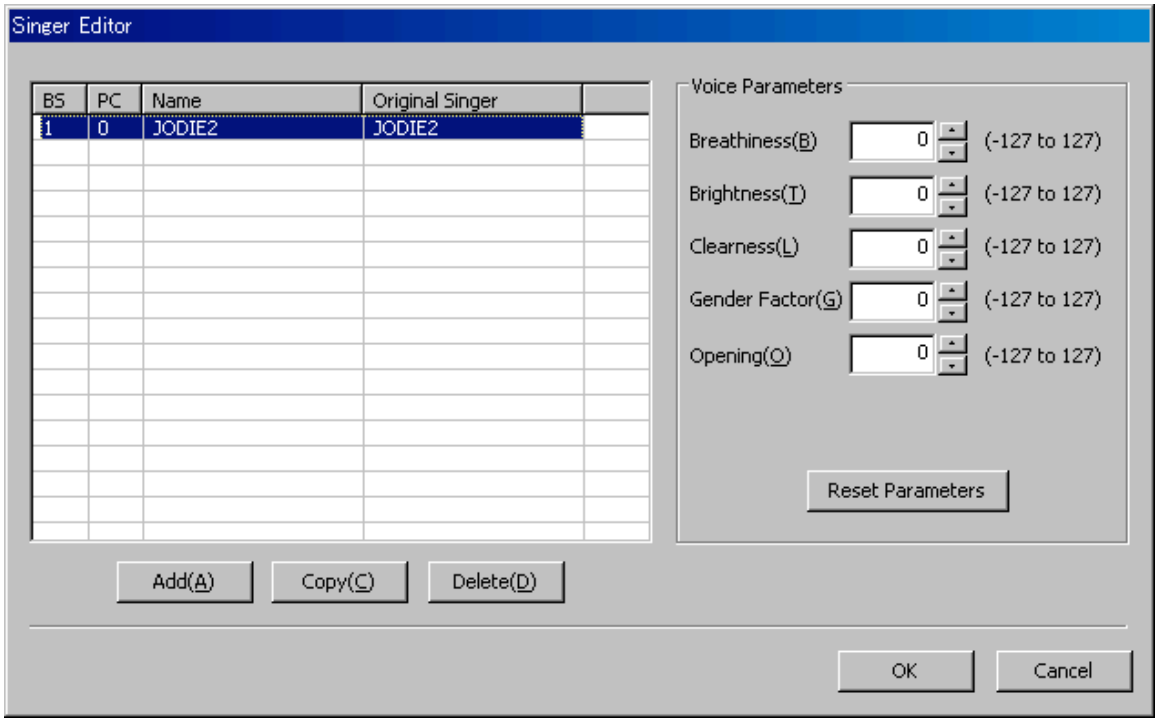
You can change the singer at any point in the sequence, as many times as you like, by using the Pencil tool to enter a new singer in the control track. Click the Pencil tool at the point in the SINGER area of the control track at which you want the change to occur. This will once

again bring up the singer menu from which you can select the singer to be inserted. The new singer icon will appear in the control track.

Customizing the Singer's Voice

Using the singer "as is" will produce characteristics most closely resembling the sound of the singer who created the databases you are using. You can, however, change a number of parameters to vary the voice over a fairly wide range via the Singer Editor application that was automatically installed with the VOCALOID2 application. Launch the Singer Editor from your computer's START -> Programs -> VOCALOID2 menu. Most of the singer parameters can also be used to apply real-time variations via the control track, "animating" your vocal tracks and simulate the expressive delivery of a live singer.

Each voice in the Singer Editor singer list has its own set of voice parameters that are displayed in the Voice Parameters sub-window when a singer is highlighted (single click) in the list. All parameters in the Voice Parameters sub-window in the singer window have a +/- 127 range, with 0 being the default "normal" setting. The [Reset Parameters] button resets all parameters to their default settings. You can edit parameter values by either clicking the increment or decrement arrows to the right of each value, or use normal text-editing procedures to directly edit the value. Changes will take effect after you close the Singer Editor application.



Breathiness

As the name implies, this parameter can be used to increase or decrease the breathiness of the voice. Higher values add more breath to the voice.

Brightness

Boosts or cuts the voice's high-frequency content. Higher values produce a brighter, more "present" sound, while lower values produce a more mellow effect. Lower values can effectively simulate gently delivered or even whispered phrases.

Clearness

The effect of this parameter is similar to the "Brightness" parameter described above, but the timbre of the voice is affected in a different way. Higher values produce a sharper, clearer sound while lower values produce a more muted sound.

Gender Factor

Shifts the formant structure of the voice, changing the voice's character over a broad range. Higher values produce deeper, male timbres, while lower values can sound more female or, in some cases, more "chipmunk-like."

Opening

This parameter simulates the way a singer can change tone by controlling the opening of his or her mouth. Higher opening values can produce a clear, open tone, while reducing the opening value can produce a less distinct tone.

Adding and Copying Singers

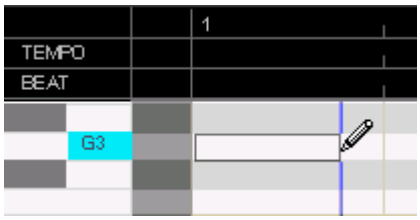
You can use the [Add] and [Copy] buttons in the Singer Editor application to create new versions of the available voices that you can simply select and use when required.

When you click [Add] you can create a new voice based on an original voice provided with your VOCALOID2 Library. Use the "PC" (Program Change) field to select a new program change number from 0 to 127 for the voice to be added (each voice must have a different program change number), select a singer from the Original menu, enter a name for the new voice in the "Name" field, and click [OK] to add the voice. You can then edit the voice name by clicking on it in the singer list. Any parameter changes you make for the new voice will be retained with the voice so you can simply select and use the variations you create whenever you need them.

The [Copy] button lets you copy an original or edited voice, using a new program change number and voice name.

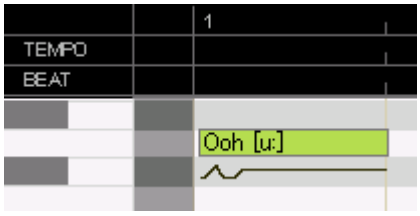
2-2. Entering & Editing Notes

You begin the creation of any VOCALOID2 sequence by entering the notes and lyrics to be “sung.” The very first step is to enter the desired notes (pitches) of the desired length. Notes are entered at the desired locations in the VOCALOID2 sequencer track (see 1-3. The Sequence Window -> Sequence Track) using the pencil tool. When the LENGTH and QUANTIZE parameters are set to “off” you can use the pencil tool to enter notes of any length at any location in the track by simply clicking and dragging the notes as required at the appropriate pitches. When a LENGTH value is selected notes will “snap” to multiples of the specified length as they are being drawn, and when a QUANTIZE value is selected the attacks of the notes entered will snap to the corresponding note alignment. The pitches of the horizontal bands in the sequence track correspond to the keys on the graphic keyboard to the left of the track. Duration can be judged by keeping an eye on the MEASURE ruler across the top of the track, and you can turn on the grid (see 1-2 The Tool Bars ->The Edit Bar ->Grid) for an even more accurate reference if required. The current position (measure:beat:clock) of your cursor is also shown by the cursor position indicator above the sequence track.



There’s also a “Note Fixed Length” item in the contextual menu that appears if you right-click in the sequence track area. This is “Off” by default, but if you select a fixed note length from the “Note Fixed Length” menu you can enter notes of the specified length by simply

clicking briefly in the sequence track. The beginning of the note is placed at the point at which you click.



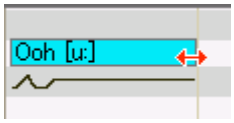
Enter the basic notes to be sung by your singer, leaving appropriate spaces for rests. Keep in mind, however, that notes in the same track cannot overlap.

Deleting Notes

Notes you have entered can be individually deleted either by clicking them with the eraser tool, or single-clicking with any other tool to highlight them and then pressing the [Delete] key on your computer keyboard. You can specify a range of notes to be deleted by clicking and dragging with the pointer tool to highlight all of the desired notes.

Stretching Notes

Individual notes can be stretched to make them longer (as long as doing so doesn't cause them to overlap another note) or shorter as required. The Length setting (see 1-2. The Tool Bars -> The Measure Bar ->Length) determines the beats to which the note release will snap when a note is stretched. Position the cursor over the beginning or end of a note so that the red double-ended arrow stretch symbol appears (<->), then click and drag the note to resize as required.

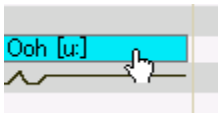


Moving Notes

Position the cursor over the body of a note and it will change to the hand pointer which you can use to click and drag the note to a different horizontal position (as long as it doesn't overlap another note), or to a different pitch. You can also use this method to move a group of highlighted notes. The QUANTIZE setting (see 1-2. The Tool Bars -> The Measure Bar ->Quantize) will determine to which beats the moved note(s) will snap.

Copying Notes

You can copy single notes or a group of highlighted notes to a different location (time and/or pitch) by grabbing and dragging with the hand pointer while holding the [Ctrl] key on your computer keyboard. As with the move operation described above, the QUANTIZE setting (see 1-2. The Tool Bars -> The Measure Bar ->Quantize) will determine to which beats the copied note(s) will snap.



You can also use the standard edit commands – cut, paste, and copy (see 1-1. The Menus -> Edit) – to copy or cut and paste single or multiple notes. In this case the notes will be pasted to the current location of the position indicator.

Quantize vs. Length

At first the QUANTIZE and LENGTH functions (see 1-2. The Tool Bars -> The Measure Bar ->Quantize, Length) may seem similar, and therefore somewhat confusing. Actually, they are very similar in that they align notes in the sequence track to the nearest specified beats, but the difference is in whether that alignment applies to the beginning (attack) or to the end (release) of the notes. The QUANTIZE setting affects where the beginnings of the notes will be placed in the sequence track. If you want all notes you enter to fall precisely in 8th-note beats, for example, make sure that QUANTIZE is set to 1/8. Then when you use the pencil tool to enter a note its attack will precisely snap to the nearest 8th note beat even if your aim is a little off.

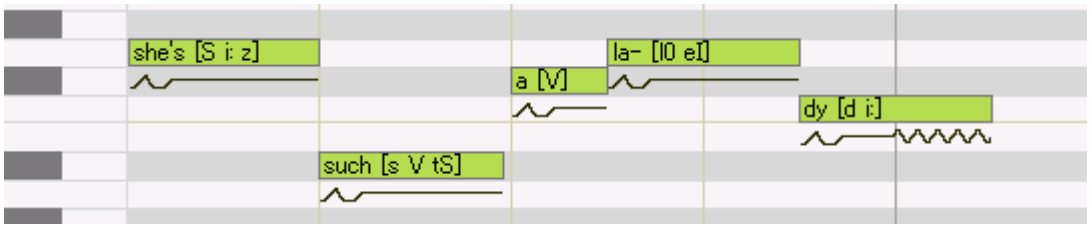
The LENGTH function, however, applies to the ends (releases) of notes. Length therefore determines the beats to which the ends of notes will snap when click-and-drag entered or stretched.

2-3. Entering & Editing Lyrics

The default lyric is automatically entered for each note ("Ooh" when entering English, for example). You can then double-click on and edit the default lyric for each note to create the desired phrase. If you have selected an English singer use standard English input and editing procedure to enter English lyrics. You can press the [TAB] key to jump directly to the next note after entering the text for a note.

In some cases a single word will correspond to a single note, but in many cases words will be sung across two or even more notes, one

syllable per note. In such cases simply type a hyphen following the syllable that needs to connect to a syllable on the following note.



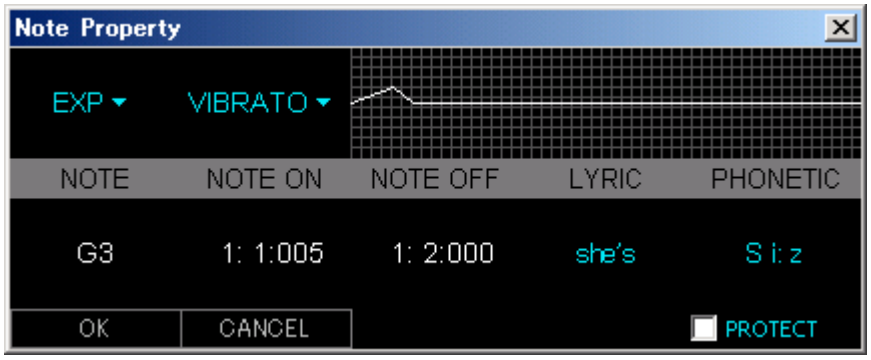
In the above example – “She’s such a lady” – the first three words (“She’s such a”) correspond to individual notes, while “la-dy” is sung using two notes: the “la-“ syllable on the first and the “dy” syllable on the second.

If a Japanese singer has been specified use standard Japanese input and editing procedures to enter Japanese lyrics. Japanese can be entered using Romaji, Hiragana, or Katakana input methods. You can press the [TAB] key to jump directly to the next note after entering the text for a note.

When entering Japanese lyrics for a Japanese singer please note that any lyrics that have been entered in Romaji (Roman characters) will be sung using Japanese Katakana pronunciation.

2-4. Note Properties 1 – Adding Vibrato and Expression

Vibrato and expression parameters can be conveniently accessed via the Note Property window. The Note Property window for the currently selected note in the sequence track can be opened by selecting “Note Property” from the Lyric menu. You can also right-click on the note and select “Note Property” from the contextual menu that appears.

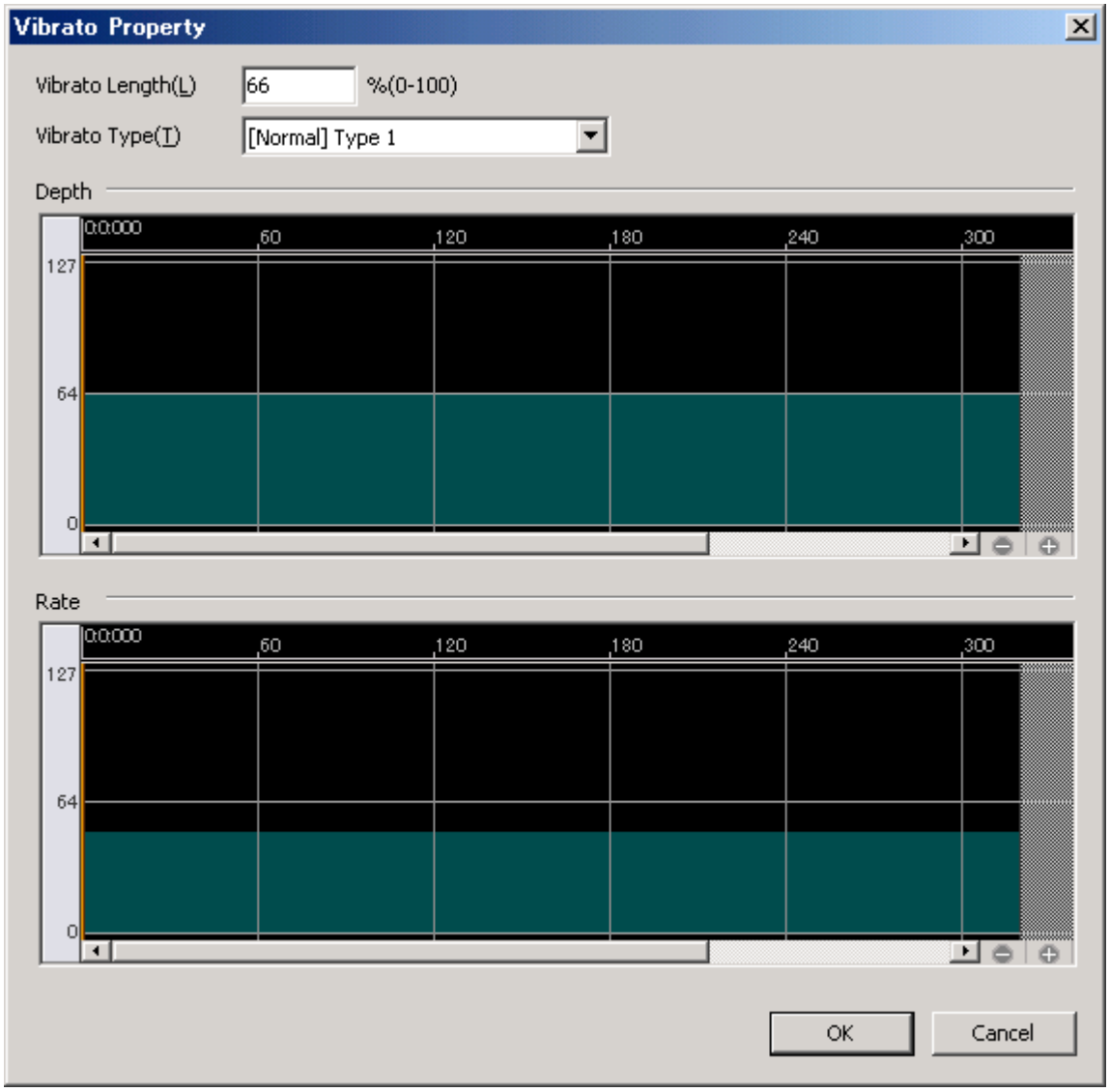


Vibrato

Click VIBRATO in the Note Property window to open the Vibrato Property window.

An alternative method of opening the Vibrato Property window is to double-click on the vibrato section of the expression symbol under the note.

If you use the latter method you only need to click the [OK] button in the Vibrato Property window to apply the changes. But if you access the Vibrato Property window via the Note Property window you will also need to click the [OK] button in the Note Property window when you have finished editing to apply the changes.



Vibrato Length

Sets length of vibrato. Default value of 66% sets vibrato for the last 66% of the note. If you change this to 100%, for example, vibrato will occur for the full length of the note. On the other hand a setting of 30% would apply vibrato to only the last 30% of the note.

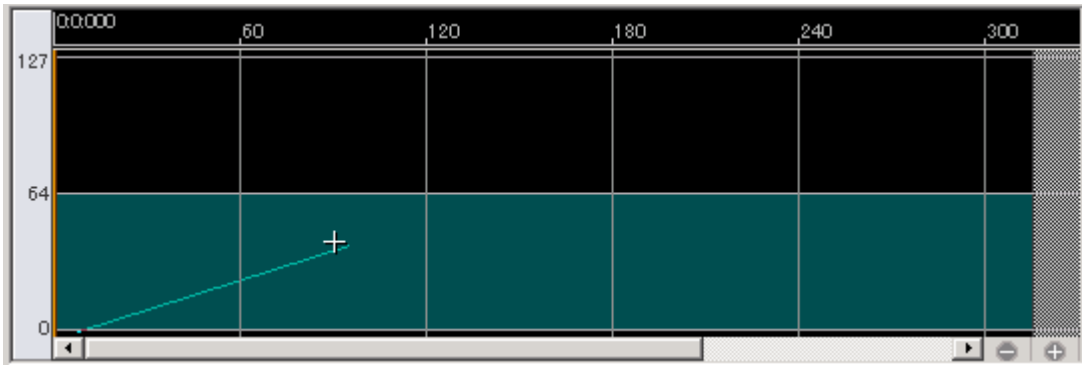
Vibrato Type

Load a basic vibrato type from the drop-down menu. The depth and rate profiles of the selected type will appear in the Depth and Rate windows below.

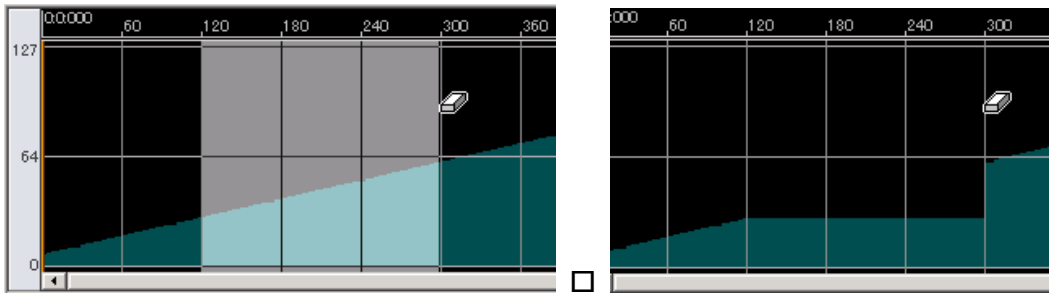
Depth and Rate Envelopes

These graphs or “envelopes” allow you to apply real-time variation to the vibrato. You can change the depth and/or rate (speed) of the vibrato over the duration of the note.

The colored region (green) is the current profile for the corresponding vibrato parameter. The left edge of the graphs corresponds to the beginning of the vibrato, and the right edge of the graphs corresponds to the end of the vibrato. The range is from 0 (minimum) through 64 (median) to 127 (maximum). Click and drag in the graph window while the “+” cursor is showing to create linear variations as required.



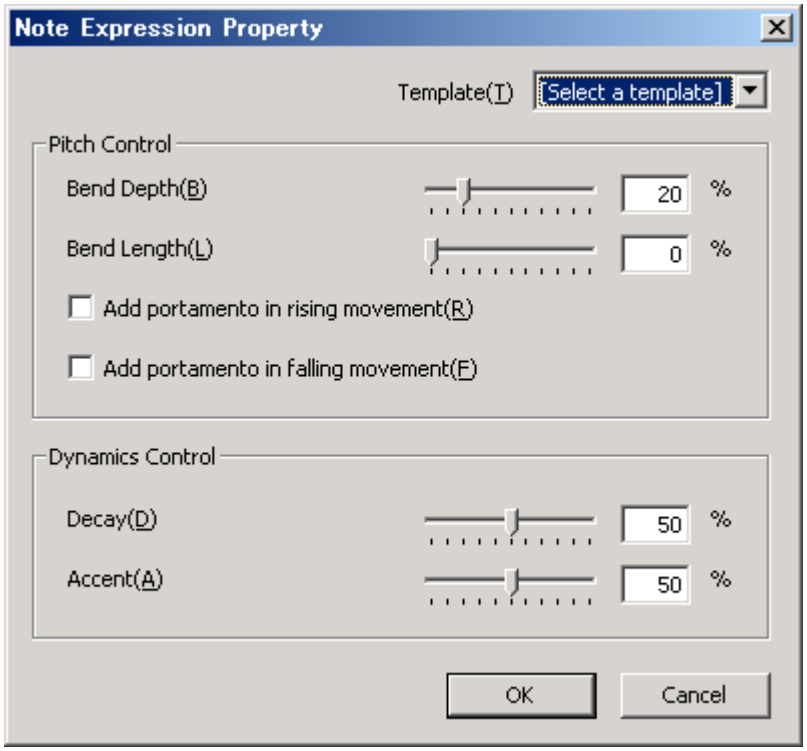
Other tool options and edit functions can be selected from the contextual menu that opens when you right-click in the graph area. The Eraser tool can be clicked and dragged along a section of the graph, creating a flat segment with a value corresponding to the point at which you began dragging (dragging from left to right).



The pointer tool can be used to drag-select a section of the graph, after which you can press the [Delete] key on your computer keyboard to create a flat section in much the same was as the eraser tool – i.e. the value of the flat section is determined by the value at the leftmost edge of the selected section.
Note that the profiles cannot be edited while the “Non Vibrato” type is selected in the Load menu.

Expression

Click EXP in the Note Property window to open the Note Expression Property window.
An alternative method of opening the Note Expression Property window is to double-click on the expression symbol under the note.
If you use the latter method you only need to click the [OK] button in the Note Expression Property window to apply the changes. But if you access the Note Expression Property window via the Note Property window you will also need to click the [OK] button in the Note Property window when you have finished editing to apply the changes.



Template

Load a basic expression type from the drop-down menu. The parameters settings in the window will change accordingly.

Pitch Control

Bend Depth slider (0 ~ 100%)

Bend Length slider (0 ~ 100%)

These two parameters specify the pitch variation that will occur at the beginning of the note. If both sliders are set all the way to the left (0%) no pitch variation will occur. Higher Bend Depth percentages create a pitch variation that covers a greater pitch range, and higher Bend Length percentages create longer pitch variation.

Add portamento in rising movement

When the pitch of a note is higher than that of the preceding note, a smooth upwared “portamento” pitch slide will occur at the beginning of the note.

Add portamento in falling movement
When the pitch of a note is lower than that of the preceding note, a smooth downward “portamento” pitch slide will occur at the beginning of the note.

Dynamics Control

Decay slider (0 ~ 100%)
Accent slider (0 ~ 100%)
These two sliders specify the “shape” of the expression at the beginning of the note. Accent increases or decreases the amplitude of the expression, while Decay increases or decreases the length of the decay into the sustained portion of the note following the initial expression portion. The height of the peak on the graphic expression symbol below the note will change to approximately reflect the Accent level.

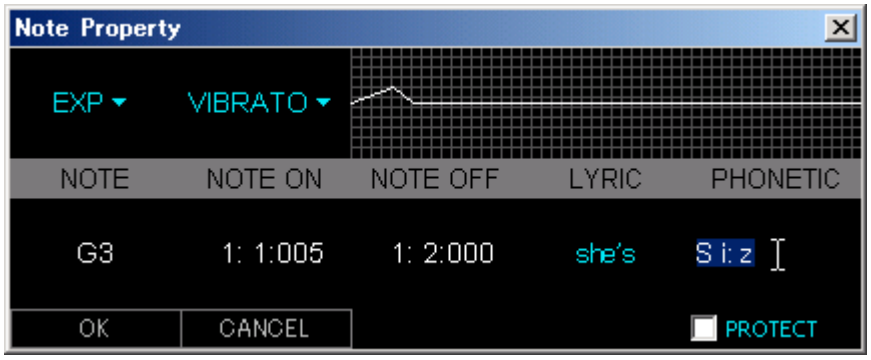
2-5. Note Properties 2 – Phoneme Functions

"Phoneme" is a linguistics term that refers to a small set of speech sounds that are distinguished by the speakers of a particular language. The VOCALOID2 phoneme functions – transformation and editing – are the critical functions that turn typed lyric text into synthesis data that sounds like natural vocals when played back.

Phoneme Editing

If the normal phoneme transformation doesn't produce the pronunciation you require, you can edit the phonetic symbols for the phoneme via the Note Properties window to change the actual phoneme transformation rule for the problem note(s).

To edit the phonetic symbols first click on the current phonetic symbols in the Note Properties window to select them for editing.



Normally you will want to change the phonetic symbol or symbols used to describe the pronunciation of the corresponding lyric. To do this simply edit the symbols as required while referring to the reference chart (see 1-3. Phonetic Symbol Charts). Each note/lyric may require one or more phonetic symbols to describe its punctuation. When more than one phonetic symbol is required the symbols must be

separated by spaces. When the phonetic symbols have been edited as required press the [ENTER] key on your keyboard to actually enter the change. When this is done the PROTECT checkbox below the phonetic symbols will automatically be checked to prevent the edited pronunciation from reverting to the default pronunciation if an overall phoneme transformation is executed later.

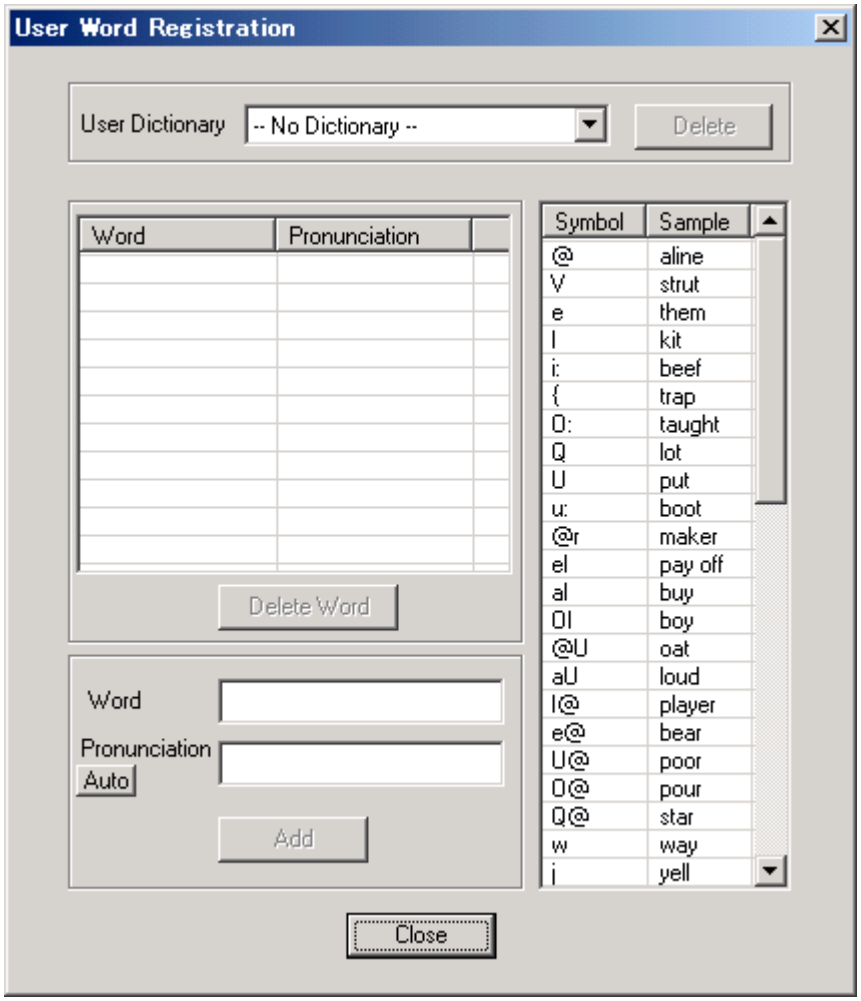
A more direct way to edit the phonetic symbols is via the notes in the sequence track: double-click the lyric in a note to select it for editing, and then press the down key [V] on your computer's keyboard while holding the [alt] key. The current phonetic symbols for the lyric will appear in place of the normal lyric spelling, and you can edit them in the same way as in the Note Properties window. Enter the change and press [Enter] on your computer keyboard. Protect is automatically applied to changes you make in this way, and you will need to enter the phoneme editor to remove protection if necessary.

A handy phonetic symbol and pronunciation sample chart is provided in the Appendix of this manual (see 3-1. Phonetic Symbol Chart).

The User Word Dictionary

VOCALOID2 comes with a basic dictionary that produces appropriate pronunciations for most lyrics, but the initial dictionary might not be able to transform all of the words you want to use in your lyrics. Any additional words can be entered in the VOCALOID2 User Word Dictionary so you have unlimited freedom to expand VOCALOID2's vocabulary to match your lyrical requirements.

Open the VOCALOID2 User Word Dictionary by clicking the User Word Dictionary item in the Lyrics menu (see 1-1. The Menus -> Lyrics -> User Word Dictionary).



Create a New User Dictionary

Select (new) from the drop-down “User Dictionary” list at the top of the User Word Registration window, enter an appropriate dictionary name in the Create User Dictionary dialog that appears, then click [CREATE].

Add New Words and Pronunciations

Once you have created a new user dictionary or selected a previously-created user dictionary you can add new words and pronunciations as required. Type your word into the “Word” space. If the [AUTO] button is engaged the appropriate phonetic symbols will automatically be generated and entered in the “Pronunciation” space for you. You can then edit the phonetic symbols as required if the automatically generated symbols don’t produce the desired results. If the [AUTO] button is not engaged when you enter your word, you will have to enter the appropriate phonetic symbols in the Pronunciation space manually. The available phonetic symbols and the corresponding pronunciation samples are shown in the chart on the right side of the window for convenient reference. When the new word and pronunciation have been entered as required, click the [Add] button to actually register them in the dictionary. Registered words and their corresponding pronunciations are displayed in the list in the upper area of the User Word Registration window.

Editing Existing Entries

To edit an existing entry in the User Word Dictionary double-click the entry in the registered word list. The word and its corresponding phonetic symbols will automatically be entered in the Word and Pronunciation spaces near the bottom of the window where they can be edited as required. After editing click the [Add] button to register the changes.

2-6. Expressive Control

The VOCALOID2 control track can be used to create dynamic changes in a number of important parameters. You can, for example, use the control track to program subtle pitch bends like those that a live singer might use to add expression to his or her performance. You can also apply dynamic variations to all of the singer's voice parameters, producing shifts in sound a texture that can bring you vocal track to life.

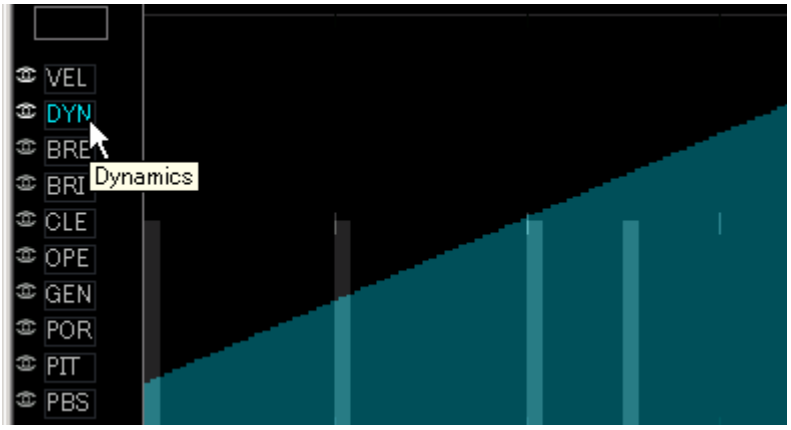
The control track is capable of displaying the control curves for two control parameter at a time, as determined by the "eye" button/icons to the left of each control parameter. That way you can edit one parameter while comparing the curve you're creating with that of another parameter. The horizontal axis of the control track corresponds to time in the sequencer track above it, so a control change in the control track corresponds to the measure:beat:clock location and note immediately above it in the sequence track. The vertical axis of the control track corresponds to the value at that point for the currently selected control parameter. Higher control points produce higher values.

Editing a Control Track

Select a Control parameter To View or Edit

Click the abbreviation of the parameter you want to edit in the menu down the left edge of the control track area. The selected parameter will be highlighted in blue. You can only select one control parameter to edit at a time, but you can select a second parameter to view for

comparison via the view icons to the left of the control parameters. Select the parameter you want to view or edit.



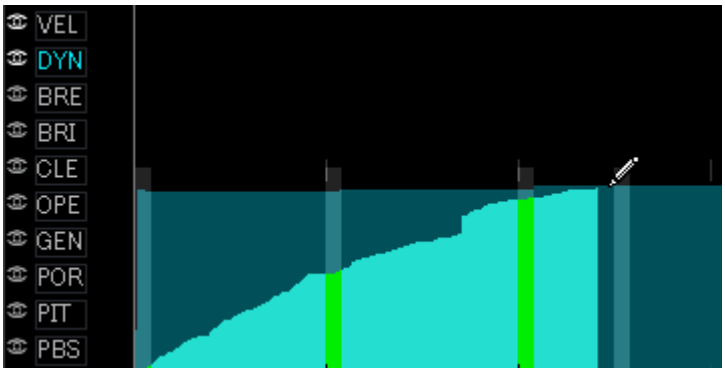
Edit the Selected Parameter

The arrow, pencil, line, and eraser tools can be used to edit data in the control track. Choose the tool that most easily produces the type of control change or curve you need. In addition to drawing curves and lines using the tools, you can use the standard edit-menu functions to, for example, copy and paste a control curve from one location on a track to another (see 1-4. The Control Track).

Pencil Tool

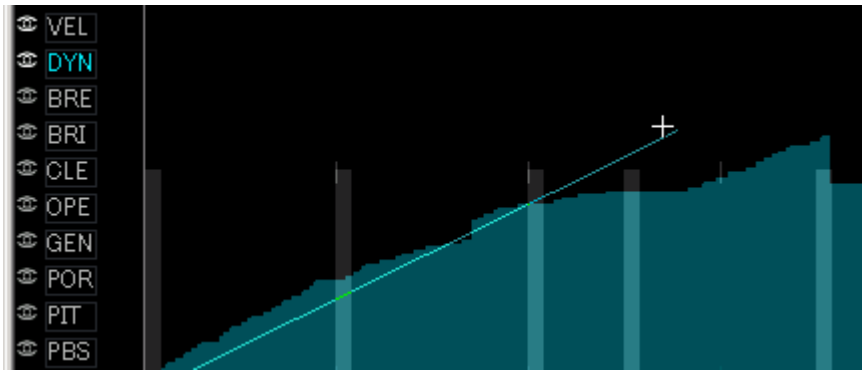
The pencil tool allows you to click and drag to create virtually any control curve you like. This method is best when you want to create complex control changes. When using the pencil tool while the VEL (Velocity) parameter is selected a shaded curve corresponding to the curve you have drawn will appear while you are dragging, then the velocity bars will automatically be adjusted to match the curve when you release the mouse button. For all other parameters the pencil tool directly draws the control curve.

You can also click and hold the pencil tool briefly at any point in the control track to automatically draw a flat line of that value up to the next value change in the curve.



Line Tool

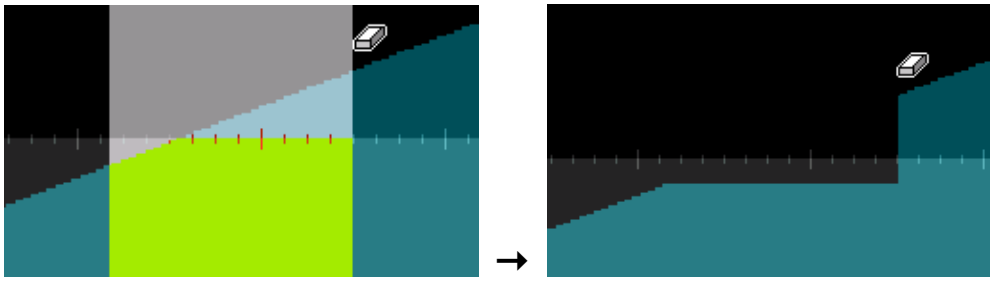
When you click and drag in the control track when the line mode is selected you will see a “rubber band” line connecting the point at which you initially clicked and the point at which you drag to. The velocity bars or parameter curve will automatically be adjusted to match the line when you release the mouse button.



Eraser Tool

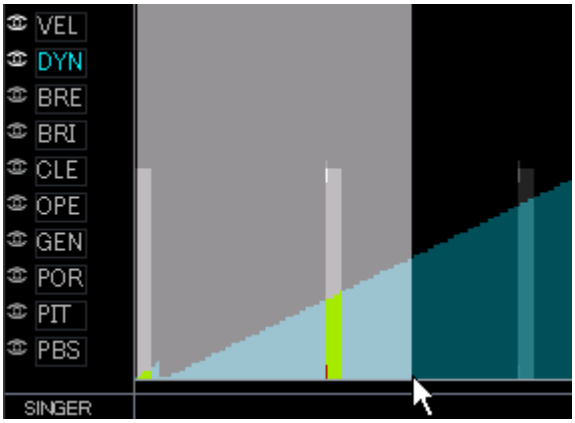
For any control parameter other than VEL (Velocity), the eraser tool can be clicked and dragged along a section of the curve, creating a flat segment with a value corresponding to the point at which you began dragging (dragging from left to right). Not,

however, that if you click on a velocity bar with the eraser tool that bar and the associated note will be erased.



Pointer Tool

The pointer tool can be used to drag-select a section of a control curve. You can then cut and paste the selected curve segment to the current position marker location. After selecting a curve segment with the pointer tool you can also press the [Delete] key on your computer keyboard to create a flat section in much the same was as the eraser tool – i.e. the value of the flat section is determined by the value at the leftmost edge of the selected section.



Right-click Tip: Right-click in the control track for conveniently accessible tool selection (see 1-2. The Tool Bars -> The Edit Bar) and edit items (see 1-1.The Menus -> Edit).

The Control Parameters

The parameter abbreviations and their meanings are as follows:

Parameter	Full Name	What It Is
VEL	Velocity	Velocity primarily affects the length of consonants at the beginnings of notes. Higher velocities result in shorter consonants – particularly “s” and “f” sounds – subjectively increasing the attack of the lyric. Note velocity control bars cannot be created using the pencil tool. They are created automatically whenever a note is entered in the sequence track, one per note. You can edit and select the note velocity bars using the pointer tool (click on a bar and drag up or down), and you can use the pencil or line tool to draw a curve or line which the included points will snap to when the mouse button is released.
DYN	Dynamics	This parameter gives you extensive control over the dynamics (loudness, softness, crescendo, diminuendo) of your singer. You can use the pencil tool to draw detailed dynamic expression, and the line tool to draw smooth level changes. The default “curve” is a straight line at the medium dynamic value.
BRE	Breathiness	All of the parameters described in the “Customizing the Singer’s Voice” section (see 2-1. The Singer -> Customizing the
BRI	Brightness	
CLE	Clearness	
OPE	Opening	
GEN	Gender	

	Factor	Singer's Voice) can be dynamically controlled via the control track. Select the desired parameter in the control menu, then use the appropriate tool(s) to enter and edit the control curve as required.
POR	Portamento Timing	Adjusts the position of the portamento (the point at which the pitch changes).
PIT	Pitch Bend	The control range in the PIT control track is from –8192 to 8191. The central "0" value corresponds to no pitch change. With the maximum PBS (Pitch Bend Sensitivity) setting (below) the overall pitch bend range allows pitch variation of ±2 octaves. Use the pencil or line tool to enter the control curve, and edit as required.
PBS	Pitch bend Sensitivity	Determines to what degree pitch bend value changes (above) will affect the produced pitch. At the maximum setting of "24" (24 semitones) the full pitch bend value range will produce pitch variation of ±2 octaves. A setting of "12" allows full-range pitch bend of ±1 octave, and so on. This parameter makes it easy to use the full pitch scale to create even delicate pitch variations.
SINGER	Singer	You can change the singer at any point in the sequence, as many times as you like, by using the Pencil tool to enter a new singer in the control track. Double-click the pencil tool at the point in the SINGER area of the control track at which you want the change to occur. This will bring up the singer menu from which you can select the singer to be inserted (see 2-1. The Singer -> Selecting a

		Singer). The new singer icon will appear in the control track.

2-7. Using VOCALOID2 With Other Music Applications

Exporting Wave Files

To export your VOCALOID2 sequence as a WAV (audio) file that you can import into and play with other applications as required, select “Wave File …” from the File/Export menu. The “Export to Wave File” dialog window will appear allowing you to name and save the WAV file. Specify the location to which you want to save the file, enter the file name, and click [SAVE].

Wave file details can be specified in Audio Settings tab of the Preferences window accessed via the Settings menu (see 1-1. The Menus -> Setting -> Preference -> “Audio Settings” Tab). If your sequence has multiple tracks you can specify whether only the currently selected track is exported (“Current Track”), or all tracks are exported as a single WAV file (“Master Track”). In either case the level and pan settings in the VOCALOID2 Mixer window affect the levels and stereo position in the exported WAV file. There is also a “Mono” option which, when selected, causes two mono files to be exported – the output level of the files will depend on the setting of the pan control in the mixer window (see 1-5. The Mixer Window).

ReWire™ Synchronization

VOCALOID2 can be synchronized with any sequencer or music application that is compatible with the ReWire™ protocol. Here’s the basic procedure for setting up ReWire™ synchronization:

1. Always launch the host application first.

2. Launch the VOCALOID2 Editor once the host application is up and running.

3. From the VOCALOID2 Setting menu select Preference > Audio Settings, and turn either the ReWire –Master or ReWire – All Tracks radio button in the Output section on (see 1-1. The Menus -> Setting -> Preference -> "Audio Settings" Tab), then click [OK]. It is also possible to assign individual tracks and the output of the master fader to your ReWire™ application via the VOCALOID2 Mixer window (see 1-5. The Mixer Window).

When this has been done you should be able to select VOCALOID2 via the host's device or ReWire™ menu (the actual nomenclature used will depend on the host application – refer to the host application owner's manual for information on ReWire™ if necessary). You should be able to achieve accurate synchronization when operating the transport controls in either VOCALOID2 or the host application. Also refer to 1-2.The Tool Bars -> The Transport Bar ->Send Info to ReWire Host.

The VOCALOID2 VST Instrument (VSTi)

If you have a sequencing/audio application that is capable of using VST instruments, and you installed the VOCALOID2 VSTi plug-in during installation, you can conveniently use VOCALOID2 as a VST instrument.
The basic procedure for using VOCALOID2 as a VST instrument is as follows:

1. Export your VOCALOID2 sequence as a MIDI file (select “midi” file type in the VOCALOID2 Export dialog window).

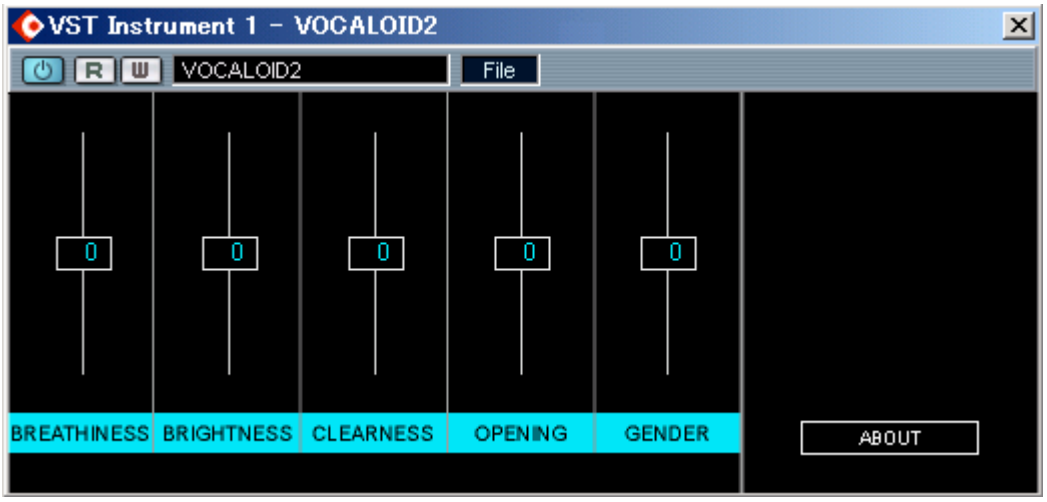
2. Import the VOCALOID2 MIDI file into your VSTi-compatible sequencer.

> **A Note About VOCALOID2 MIDI Files:**
> Midi files created by VOCALOID2 use special commands and do not include standard note-on/off events. VOCALOID2 MIDI files can therefore only be used to control VOCALOID2.
> Also note that the control data for VOCALOID2 is being sent early to allow for processing and early vocal sounds, so there will appear to be a delay between the MIDI events in the MIDI track and the sounds produced. This is normal.

3. Select the VOCALOID2 VST instrument from the appropriate menu or window in your VSTi-compatible application (refer to your application’s owner’s manual for further information if necessary).

4. Make sure the output of the MIDI track is assigned to VOCALOID2 VSTi.

VOCALOID2 should now function as a VST instrument that can be combined with other sequenced and/or audio tracks for further production.



The parameters available in the VOCALOID2 VST instrument are exactly the same as those available in the Singer Editor window (see 2-1. The Singer -> Customizing the Singer Voice), but unlike the same parameters in the VOCALOID2 Editor the VST instrument parameters can be adjusted in real time.

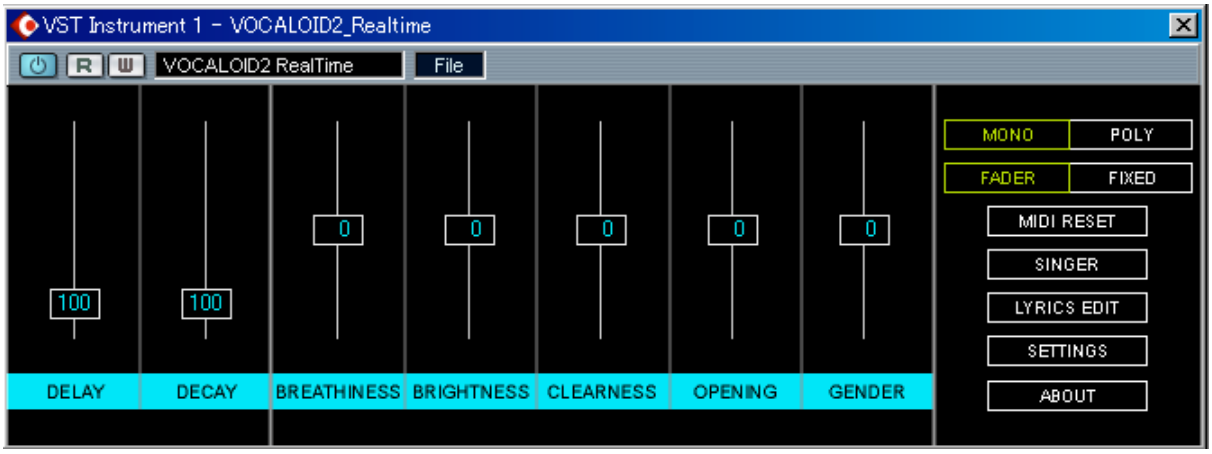
The Real-time VOCALOID2 VST Instrument (VSTi)

If you have a sequencing/audio application that is capable of using VST instruments, and you installed the VOCALOID2 VSTi plug-in during installation, you can conveniently use VOCALOID2 as a real-time VST instrument (you can play lyrics you enter into the VOCALOID2 real-time VST instrument from a MIDI keyboard or other type of controller in real time).
The basic procedure for using VOCALOID2 as a real-time VST instrument is as follows:

1. Select the VOCALOID2_Realtime VST instrument from the appropriate menu or window in your VSTi-compatible application (refer to your application's owner's manual for further information if necessary).

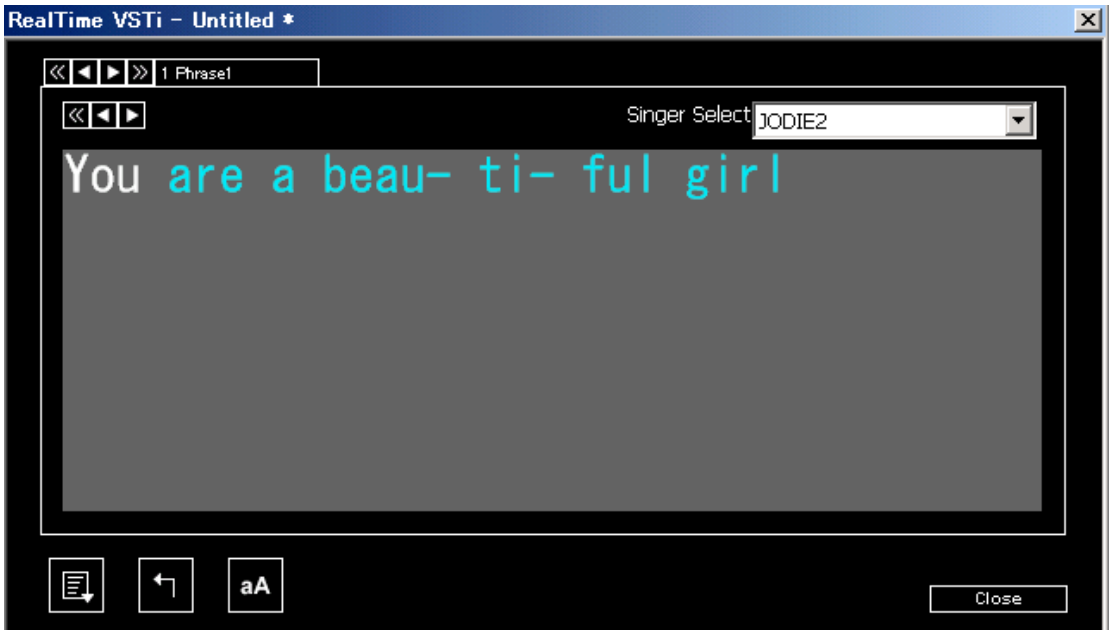
2. Make sure the output of the MIDI track is assigned to VOCALOID2_Realtime VSTi.

3. The VOCALOID2_Realtime VST instrument main window may or may not open automatically. Refer to your application's owner's manual for details. You want the VOCALOID2_Realtime VST instrument main window to be open.



4. Normally, the next thing you'll want to do is to enter the lyrics you want the VOCALOID2_Realtime VST instrument to sing. To do this click the [LYRICS EDIT] button in the main window, and type a word or phrase into the text box that appears.

5. Press [Enter] on your computer keyboard to break the phrase you entered down into phoneme-size chunks.



6. Click the [aA] button to send the phoneme to the VOCALOID2 synthesis engine, and wait until the hourglass icon disappears, indicating that the data has been properly sent.

7. Assuming that your MIDI keyboard or controller is properly connected to the computer, you should now be able to play the lyrics you entered in real time. One phoneme is played per note played on the MIDI keyboard or controller. When the end of the phrase is reached the next note will play the first phoneme, and so on. If you watch the text in the text box as you play, you'll notice that then next lyric to be played appears white while all others are displayed in blue.

The Mono and Poly Modes

The default mode is last-note priority mono. If you play a note while holding the previous note, the pitch will change accordingly but the vowel segment of the same phoneme will continue playing. This can be a useful feature for a range of playback effects.

You can switch to the polyphonic mode via the main window POLY button if you want play chords. Maximum polyphony in this mode is 4 notes. When you play a chord the same phoneme is played for all notes, even if you play an arpeggio. As long as at least one note remains held the same phoneme will be played. The next phoneme will be played only after all notes have been released.

The Main Window Sliders

The BREATHINESS, BRIGHTNESS, CLEARNESS, OPENING, and GENDER parameters available in the VOCALOID2_Realtime VST instrument main window are exactly the same as those available in the Singer Editor window (see 2-1. The Singer -> Customizing the Singer Voice), but unlike the same parameters in the VOCALOID2 Editor the VST instrument parameters can be adjusted in real time.

The remaining two sliders control the length of the first and last consonants in each phoneme. The DELAY slider adjusts the length of the consonant at the beginning of the note, while the DECAY slider adjusts the length of the consonant at the end of the note. The reason for doing this is that consonants are usually pronounced slightly before the beat. Setting an appropriate consonant length makes it

easier for the player to “feel” and stay on the beat. The numeric values in the sliders are milliseconds. However, the FADER and FIXED buttons in the main window affect operation of the DELAY slider as follows: When FADER is selected the DELAY slider sets the consonant length as described above, but when FIXED is selected the preset consonant length, based on the timing of an actual singer, is used. In many cases the FIXED setting will provide the most natural overall sound.

Other Lyrics Editor Features

The Lyrics Edit window has a few more useful features that you’ll need to know about.

Phoneme Forward/Backward Buttons

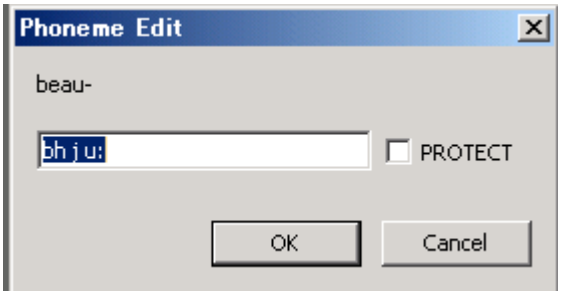
Above the text box are a group of arrows that can be used to select the next phoneme to be played. The buttons move backward or forward one phoneme each time they are clicked (the selected phoneme will be displayed in white), and the button returns to the first phoneme in the phrase.

Singer Select

The Singer Select menu above the text box allows you to select the singer that will sing the lyrics in that tab. You can create other tabs to hold other lyrics, as we’ll explain below.

Phoneme Edit

You can double-click on any phoneme in the text box to open the corresponding phoneme edit window. Phonemes can be edited via this window in the same was as described in 2-5. Note Properties 2 – Phoneme Functions -> Phoneme Editing. You’ll need to check the PROTECT checkbox if you don’t want the phonetic spelling you’ve entered to be changed by automatic phoneme transformation.



Tabs

You can create up to 16 tabs that can be used to hold different phrases by right-clicking a tab and selecting “Add Tab.” Click any available tab to select the related text box. Lyrics are entered in the same way for all tabs, and you can select a different singer for each tab. This allows you to create a stock of phrases that you can select quickly and play via your MIDI keyboard or controllers.

The arrow buttons next to the tabs make it easy to move from tab to tab, or to the first or last tab. The buttons move backward or forward one tab each time they are clicked, and the and buttons select the first or last tab in the row, respectively.

Undo

The bent arrow button near the bottom left corner of the Lyrics Edit window is an “Undo” button that can be used to undo most operations.

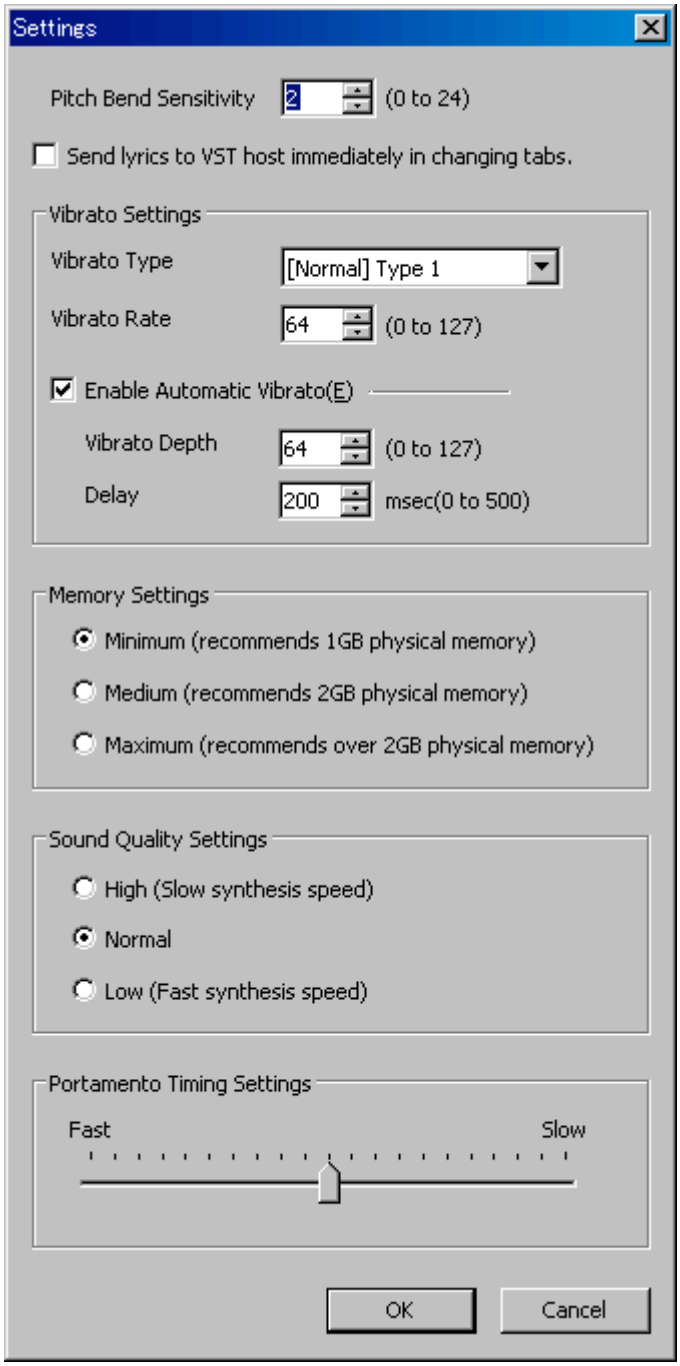
Save/Open Button

The last button in the lower left corner of the Lyrics Edit window is a Save/Open button that can be used to save your lyrics for later recall when needed. Click this button and select “Save” from the menu that appears to save the lyrics stored in all tabs

to a file (.vlf file extension). Select “Open” if you want to load a previously saved lyric file.

Settings

The Settings window includes a number of settings that affect VOCALOID2_Realtime operation. Make the required settings and click the [OK] button to close the window.



Pitch Bend Sensitivity

Sets the sensitivity of the VOCALOID2_Realtime VST instrument to incoming MIDI pitch bend data. The higher the setting, the greater the amount of pitch bend produced.

Send lyrics to VST host immediately in changing tabs.

Normally when you switch tabs you need to click the [aA] button to send the lyrics data from that tab to the VOCALOID2 synthesis engine. When this checkbox is checked the VOCALOID2_Realtime VST instrument will send the data for you automatically whenever you select a new tab.

Vibrato Settings

The “Vibrato Type” and “Vibrato Rate” settings affect both vibrato applied manually from the MIDI keyboard or controller modulation wheel and vibrato applied automatically. Vibrato will be applied automatically if the “Enable Automatic Vibrato” checkbox is checked. Automatic vibrato is also affected by the “Vibrato Depth” and “Delay” parameters below the “Enable Automatic Vibrato” checkbox. The “Delay” parameter specifies the delay before the vibrato begins after the initial expression of the note.

Memory Settings

These settings optimize performance of the VST instrument according to the amount of RAM you have installed in your computer. Click the radio button that corresponds to the amount of RAM you have.

Singer Properties

This button takes you to the same Singer Properties window that appears when you select Singer Properties from the VOCALOID2 Editor

Settings menu. These parameters are shared between the VOCALOID2 Editor application and the VOCALOID2_Realtime VST instrument. Also see 2-1. The Singer -> Customizing the Singer Voice

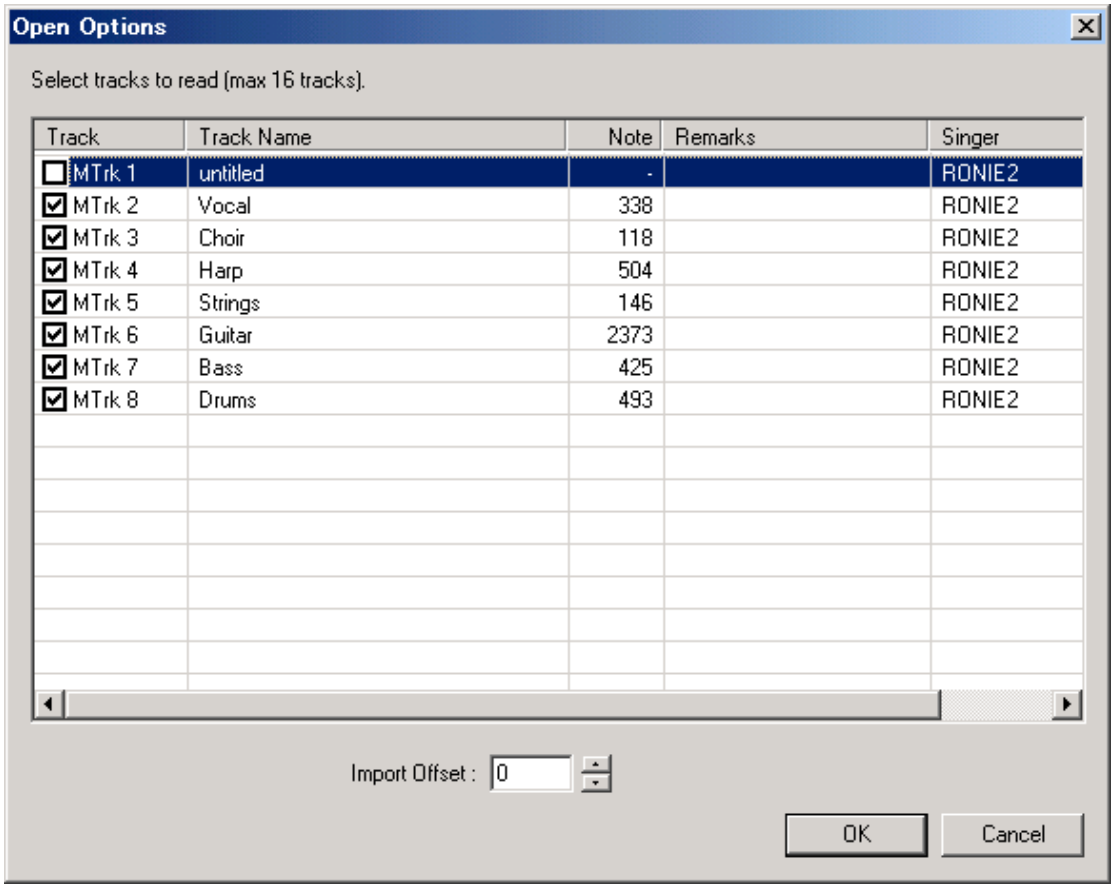
MIDI Reset
Clicking this button resets the MIDI output, and can be used to terminate hung notes in some cases.

About
Displays the VOCALOID2 splash screen.

Importing MIDI (SMF) Files

You can import standard SMF (Standard MIDI File) files you have created in another sequencer application and use the notes as the basis for VOCALOID2 tracks. Imported parameters include MIDI note on, note off, velocity, and pitch bend data. Since VOCALOID2 sequences can have up to 16 tracks, multi-track SMF files containing up to 16 tracks can be imported in one operation.

SMF files are imported via the standard File menu “Import …” dialog. When you open an SMF file, however, the SMF Options window will appear allowing you to choose which tracks you want to import. Simply check or uncheck the tracks as required, then click [OK] to import the file.



3. Appendix

3-1. Phonetic Symbol Charts

VOCALOID2 Phonetic Symbol Table (English)

Symbol	Sample	Comments
@	the s<u>u</u>n	(schwa)
V	str<u>u</u>t	
e	th<u>e</u>m	
I	k<u>i</u>t	
i:	b<u>ee</u>f	
{	tr<u>a</u>p	
O:	t<u>au</u>ght	
Q	l<u>o</u>t	
U	p<u>u</u>t	
u:	b<u>oo</u>t	
@r	mak<u>er</u>	
eI	p<u>ay</u>	

aI	b<u>uy</u>	
OI	b<u>oy</u>	
@U	<u>oa</u>t	
aU	l<u>ou</u>d	
I@	b<u>eer</u>	
e@	b<u>ear</u>	
U@	p<u>oor</u>	
O@	p<u>our</u>	
Q@	st<u>ar</u>	
w	<u>w</u>ay	
j	<u>y</u>ellow	
b	ca<u>b</u>	
d	ba<u>d</u>	
g	ba<u>g</u>	
bh	<u>b</u>ig	beginning of syllable, with aspiration
dh	<u>d</u>og	beginning of syllable, with aspiration
gh	<u>g</u>od	beginning of syllable, with aspiration
dZ	<u>j</u>eans	
v	<u>v</u>ote	
D	<u>th</u>eir	
z	re<u>s</u>ort	
Z	A<u>s</u>ia	
m	<u>m</u>ind	
n	<u>n</u>ight	
N	lo<u>ng</u>	
r	<u>r</u>ed	
l	fee<u>l</u>	
l0	<u>l</u>ist	beginning of syllable
p	di<u>p</u>	
t	si<u>t</u>	
k	ro<u>ck</u>	
ph	<u>p</u>eace	beginning of syllable, with aspiration
th	<u>t</u>op	beginning of syllable, with aspiration
kh	<u>k</u>iss	beginning of syllable, with aspiration
tS	tou<u>ch</u>	
f	<u>f</u>eel	
T	<u>th</u>ink	
s	<u>s</u>ea	
S	<u>sh</u>are	
h	<u>h</u>at	

VOCALOID2 Phonetic Symbol Table (Japanese)

Symbol	Sample (in roman letters)	Description
a	ai	
i	ima	
M	uta	
e	egao	
o	omoi	
k	kokoro	
k'	kibou	followed by /i/
g	genki	
g'	giri	followed by /i/
N	ongaku	nasalized /g/
N'	kagi	followed by /i/, nasalized /g/
s	sadame	
S	shiawase	
z	kizu	
Z	iji	
dz	zuboshi	beginning of word
dZ	jibun	beginning of word
t	taido	
t'	baraeti	followed by /i/
ts	tsuki	
tS	inochi	
d	daichi	
d'	merodi	followed by /i/
n	namida	
J	nioi	followed by /i/
h	hana	
h\	mahou	inside a word
C	hinagiku	followed by /i/
p\	hushigi	
p\'	fianse	
b	boku	
b'	bijin	followed by /i/
p	posuto	
p'	piano	followed by /i/
m	manako	
m'	mirai	followed by /i/
j	yume	
4	sora	
4'	rikutsu	followed by /i/

w	watashi	
N\	jikan	

3-2. Shortcut Keys

Most menu shortcut keys are listed in the menus themselves, so please refer to the menus for those shortcuts. In cases in which the shortcut consists of a control-key + modifier key combination, the combination is listed to the right of the corresponding item in the menu. All other menu shortcuts comply with standard Windows procedure: if a character in a menu is underlined, hold the [ALT] key and press that character key to open the menu. You can then press the underlined character in the menu items to select the corresponding item.
The remaining shortcut key operations are as follows:

Transport Shortcuts

Fast reverse	Numeric keypad "-" (minus) key.	Jump backward one measure.
Fast Forward	Numeric keypad "+" (plus) key.	Jump forward one measure.
Play/Stop	Space key or numeric keypad Enter key.	Start playback if stopped, or stop playback if playing.
Stop/Top	Main keyboard period key or numeric keypad period key.	Stops playback, or if playback is stopped jumps to the beginning of the sequence or the start marker (if active).
Top	Period key.	Go to the start of the sequence or start marker.

Edit Tool Shortcuts

Pencil	Ctrl+W	Switches to the pencil tool if the pointer tool is selected, or to the pointer tool if the pencil tool is selected.

Eraser	Ctrl+E	Switches to the eraser tool if any other tool is selected, or to the pointer tool if the eraser tool is selected.

Miscellaneous

Show/hide mixer	F3	Alternately shows or hides the mixer window.
Show/hide transport bar	F4	Alternately shows or hides the transport bar.
Enter lyric edit mode	F2	Click an editable lyric once and then press F2 to enter the edit mode. Same overall effect as double-clicking.
Lyric/phoneme edit toggle	Alt+(up arrow)/Alt+(down arrow)	Toggles between lyric and phoneme editing when a note lyric is selected for editing.
Select next note	Tab	Selects the next note in edit mode. Lyric or phoneme edit mode is maintained.
Select previous note	Shift+Tab	Selects the previous note in edit mode. Lyric or phoneme edit mode is maintained.
Select next track	Ctrl+Pg dn	Selects the next track tab.
Select previous track	Ctrl+Pg up	Selects the previous track tab.
Select next control parameter	Ctrl+Alt+Pg dn	Selects the next control parameter.
Select previous control parameter	Ctrl+Alt+Pg up	Selects the previous control parameter.

3-3. Troubleshooting Q & A

Installation and Activation Problems

Q: The software worked fine for a while after installation, but then stopped working. What happened?
A: Your temporary activation period may have expired. You will need to carry out the permanent activation procedure (see Activation).

Q: I want to re-install my operating system, and then re-install VOCALOID2 on the same computer. What will happen to the activation?
A: As long as you're using the same computer VOCALOID2 can be re-installed as many times as you like.

Q: Can I re-install and use VOCALOID2 on a different computer than the one I originally activated it on?
A: VOCALOID2 is licensed for use on one computer only. If you need to install the software on a different computer please contact Zero-G at vocaloidsupport@zero-g.co.uk

Note Editing Problems

Q: I entered a number of notes but some or all are "grayed out" and won't play.
A: Some or all notes may be overlapping. You may need to adjust the positions of the notes by hand, or use the Normalize Object command located in the Job menu (see 1-1. The Menus -> Job -> Normalize Notes).

Q: I imported an SMF file I made using another program, but some or all of the notes are "grayed out" and won't play.

A: Some or all notes may be overlapping. Each VOCALOID2 track is strictly monophonic and overlapping notes won't play. Use the Normalize Object command located in the Job menu (see 1-1. The Menus -> Job -> Normalize Notes).

Q: When I try to enter notes a strange "prohibited" mark appears beside the cursor and I can't enter any notes.
A: You are probably trying to enter notes in the pre-measure area (the negative-numbered measures before measure "1"). You can only enter notes from measure 1 onwards.

Q: The notes don't appear to be overlapping and yet they are grayed out.
A: The displayed and actual positions of the notes may vary slightly depending on the Quantize and Length settings. Either change the Quantize and Length settings, or use the Normalize Object command located in the Job menu (see 1-1. The Menus -> Job -> Normalize Notes).

Q: I get no sound when I enter short notes.
A: The same would happen with a human singer. VOCALOID2 needs notes that are long enough for it to sing. Please make the notes longer.

Q: I shortened some rests between notes and ended up with a continuous note.
A: Once again, the same would happen with a human singer. VOCALOID2 needs time to respond. Please make the rests between notes longer.

Lyric Editing Problems

Q: I entered the phonetic symbols myself, but now I get no sound at all.

A: The phonetic symbols within each note must be separated by spaces. Also, only one syllable can be entered for each note. If a note has no syllable, or more than one syllable, it will produce no sound.

Synthesis Problems

Q: I get no sound at all!
A: Check everything from your selected audio device to your physical audio connections. If you have more than one audio device installed in your computer, the software may be assigned to the wrong device. Check your AUDIO > Device … settings in the Settings menu.

Q: After entering some lyrics, I changed the singer and now I get no sound.
A: You may have switched to a singer of a different language. Phonetic symbols that do not apply to the language of the currently selected singer will be ignored, and as a result you will get no sound.

Q: I tried using a MIDI file produced by the VOCALOID2 Editor with another tone generator, but was not able to produce any sound.
A: VOCALOID2 uses special MIDI messages that are different from the standard note on and off messages used by normal tone generators. VOCALOID2 MIDI data cannot be used to drive conventional tone generators.

Q: If the VOCALOID2 Editor tempo and/or time signature is different from that of my host sequencer, will the two applications synchronize properly?
A: Tempo and time signature differences can not be automatically adjusted. Make sure the tempo and time signature of the VOCALOID2 Editor and your host sequencer match.

3-4. MIDI Data Format for VOCALOID2 VSTi

1. Channel Message

1.1. Note on/off 9n/8n
Not Used (see also 3.1.1 VOCALOID2 Note Message)

1.2. Control Change Bn

1.2.1. Bank Select MSB/LSB 00/20
Not Used (see also 3.2.1 VOCALOID2 Bank Select (MSB/LSB)

1.2.2. Data Entry MSB/LSB 06/26
Used in combination with NRPN LSB/MSB to represent note, lyric and expression information.
(see also 3. NRPN & Data Entry for VOCALOID2)

1.2.3. Channel Volume 07
Not Used (see also 3.2.2 VOCALOID2 Channel Volume)

1.2.4. Panpot 0A
Not Used (see also 3.2.3 VOCALOID2 Panpot)

1.2.5. Expression 0B
Not Used (see also 3.2.4 VOCALOID2 Expression)

1.2.6. Vibrato Rate 4C
Not Used (see also 3.2.5 VOCALOID2 Vibrato Rate)

1.2.7. Vibrato Depth 4D
Not Used (see also 3.2.6 VOCALOID2 Vibrato Depth)

1.2.8. Vibrato Delay 4E
Not Used

1.2.9. Data Inc/Dec 60/61
Not Used

1.2.10. NRPN MSB/LSB 63/62
Used to specify the following parameters
(see also 3. NRPN & Data Entry for VOCALOID2)

MSB	LSB	
50	00～7F	VOCALOID2 Note Message
51	00	Begin of VOCALOID2 MIDI
52	00	End of VOCALOID2 MIDI
53	01～02	VOCALOID2 Program Change
54	01～02	VOCALOID2 Pitch Bend
55	01～03	VOCALOID2 Voice Change Parameters
60	01～02	VOCALOID2 Bank Select
61	01～02	VOCALOID2 Channel Volume
62	01～02	VOCALOID2 Panpot
63	01～02	VOCALOID2 Expression
64	01～02	VOCALOID2 Vibrato Rate
65	01～02	VOCALOID2 Vibrato Depth
66		Reserved
67	01～02	VOCALOID2 Pitch Bend Sensitivity

1.2.11. RPN LSB/MSB 64/65
Not Used

1.3. Program Change Cn

Not Used (see also 3.4 VOCALOID2 Program Change)

1.4. Pitch Bend En

Not Used (see also 3.5 VOCALOID2 Pitch Bend)

2. System Exclusive Message

Not Used

3. NRPN & Data Entry for VOCALOID2

Most of the VOCALOID2 information is sent to the synthesis engine in combination with NRPN MSB/LSB (Bn 63 / Bn 62) and Data Entry (Bn 06 / Bn 26). Below is a detailed description:

3.1. VOCALOID2 Channel Voice Message

3.1.1. VOCALOID2 Note Message

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description	omittable
50	00	00 - 7F	00 - 7F	DataEntry MSB : Version number DataEntry LSB : device number	NO
50	01	00 - 7F	00 - 7F	Delay in millisec	NO
50	02	00 - 7F	–	Note number	NO
50	03	00 - 7F	–	Velocity	NO
50	04	00 - 7F	00 - 7F	Note Duration in millisec	NO
50	05	00 - 03	–	Note Location 00 : Inside note chunk 01 : Top of note chunk 02 : End of note chunk 03 : Top and End of note chunk	NO
50	06-0B	–	–	Reserved 00 : default	YES
50	0C	00 - 7F	00 - 7F	Index of Vibrato DB MSB: ID_H 00 : default LSB: ID_L 00 : default	YES
50	0D	00 - 7F	00 - 7F	MSB: Index of Vibrato Type 00 : default (Not Used) LSB: Duration & Continuation parameter of vibrato 00 : vibrato continued to next note 01 : short 7F : default : until the end of note	YES
50	0E	00 - 7F	–	Vibrato Delay 00 : default	YES
50	0F-11	–	–	Reserved 00 : default	YES
50	12	00 - 6b	–	Number of phonetic symbols in bytes	NO
50	13	00 - 7F	(00 - 7F)	DataE MSB:Phonetic symbol1 , DataEntry LSB:Consonant adjustment 1	NO
50	14	00 -7F	(00 - 7F)	DataE MSB:Phonetic symbol2 , DataEntry LSB:Consonant adjustment 2	NO
50	…	00 - 7F	(00 - 7F)	….	NO
50	pn	00 - 7F	(00 - 7F)	DataE MSB:Phonetic symbol , DataEntry LSB:Consonant adjustment	NO
50	4F	00 - 7F	–	Data E. MSB : 7F=End of Phonetic symbols 00=continue 01-7E=Reserved	NO
50	50	00 - 3C	–	MSB: v1mean in Cent/5	YES
50	51	08 - 28	–	MSB: d1mean in millisec/5	YES
50	52	14	–	MSB: d1meanFirstNote in millisec/5	YES
50	53	1C - 78	–	MSB: d2mean in millisec/5	YES

50	54	0A - 3C	–	MSB: d4mean in millisec/5	YES
50	55	00 - 32	–	MSB: pMeanOnsetFirstNote in Cent/5	YES
50	56	05 - 1E	–	MSB: vMeanNoteTransition in Cent/5	YES
50	57	05 - 1E	–	MSB: pMeanEndingNote in Cent/5	YES
50	58	00 - 03	–	AddScoopToUpIntervals & AddPortamentoToDownIntervals 00 :AddScoopToUpIntervals=False AddPortamentoToDownIntervals=False 01 :AddScoopToUpIntervals=True AddPortamentoToDownIntervals=False 02 :AddScoopToUpIntervals=False AddPortamentoToDownIntervals=True 03 :AddScoopToUpIntervals=True AddPortamentoToDownIntervals=True	YES
50	59	00 - 64	–	MSB: changeAfterPeak 0x00: 0.0, 0x64: 0.5 (linear value between 0.0 and 0.5)	YES
50	5A	00 - 64	–	MSB: Accent 0x00: -1.0, 0x32: 0.0, 0x64:+1.0 (linear value between -1.0 and 1.0)	YES
50	5B-7E	–	–	Reserved 00 : default	YES
50	7F	0 - 7F	–	Data E. MSB : 7F=End of Note Message 00=continue 01-7E=Reserved	NO

- A parameter in which “omittable=YES” does not have to be transferred.
- The message is confirmed when NRPN LSB=7F and DataEntry MSB=7F are received.

3.2. VOCALOID2 Control Change

3.2.1. VOCALOID2 Bank Select (MSB/LSB)

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
60	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
60	01	00 - 7F	00 - 7F	Delay in millisec
60	02	00 - 7F	(00-7F)	Language type: DataEntry MSB = Bank Select MSB DataEntry LSB = Bank Select LSB DataEntry LSB is optional.

3.2.2. VOCALOID2 Channel Volume

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
61	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
61	01	00 - 7F	00 - 7F	Delay in millisec
61	02	00 - 7F	–	Volume value

3.2.3. VOCALOID2 Panpot

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
62	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
62	01	00 - 7F	00 - 7F	Delay in millisec

62	02	00 - 7F	–	Pan value

3.2.4. VOCALOID2 Expression

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
63	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
63	01	00 - 7F	00 - 7F	Delay in millisec
63	02	00 - 7F	–	Expression value

3.2.5. VOCALOID2 Vibrato Rate

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
64	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
64	01	00 - 7F	00 - 7F	Delay in millisec
64	02	00 - 7F	–	Vibrato Rate value

3.2.6. VOCALOID2 Vibrato Depth

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
65	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
65	01	00 - 7F	00 - 7F	Delay in millisec
65	02	00 - 7F	–	Vibrato Depth value

3.2.7. VOCALOID2 Pitch Bend Sensitivity

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
67	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
67	01	00 - 7F	00 - 7F	Delay in millisec
67	02	00 - 7F	00 - 7F	Pitch Bend Sensitivity

3.3. VOCALOID2 Real Time Message

3.3.1. Begin of VOCALOID2 MIDI(BODM)

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
51	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number

3.3.2. End of VOCALOID2 MIDI(EODM)

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
52	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number

3.4. VOCALOID2 Program Change

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
53	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
53	01	00 - 7F	00 - 7F	Delay in millisec
53	02	00 - 7F	–	Voice type: For Example 00 : Male1 01 : Male2 …. 0F : Male16

				10 : Female1 11 ; Female2 … 1F : Female16 20 : Child1 21 : Child2 … 2F : Child16

3.5. VOCALOID2 Pitch Bend

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
54	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
54	01	00 - 7F	00 - 7F	Delay in millisec
54	02	00 - 7F	00 - 7F	Pitch Bend value

3.6. VOCALOID2 Voice Change Parameters

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
55	00	00 - 7F	00 - 7F	DataEntry MSB : Version number , DataEntry LSB : device number
55	01	00 - 7F	00 - 7F	Delay in millisec
55	02	00 - 7F	-	Voice Change Parameter ID 31 : Voice Change Breathiness 32 : Voice Change Brightness 33 : Voice Change Clearness 34 : Voice Change Portamento Timing 35 : Voice Change Opening 70 : Voice Change Gender Factor others : Reserved
55	03	00 - 7F	-	Voice Change Parameter value

3-5. MIDI Data Format for Real-time VOCALOID2 VSTi

1. Channel Message

1.1. Note on/off 9n/8n

	note	Velocity	Description
9n	00 - 7F	00 - 7F	Note on
8n	00 - 7F	00 - 7F	Note off

1.2. Control Change Bn

1.2.1. Modulation Wheel 01

	MSB	Description
01	00 - 7F	VOCALOID2 Vibrato Depth

1.2.2. Expression controller 0B

	MSB	Description
0B	00 - 7F	VOCALOID2 Expression

1.2.3. General purpose controller2 11

	MSB	Description
11	00 - 7F	VOCALOID2 Voice Change Breathiness

1.2.4. General purpose controller3 12

	MSB	Description
12	00 - 7F	VOCALOID2 Voice Change Clearness

1.2.5. General purpose controller4 13

	MSB	Description
13	00 - 7F	VOCALOID2 Voice Change Gender Factor

1.2.6. Hold1 damper pedal 40

	MSB	Description
40	00 - 7F	00 : sustain on 7F : sustain off Other : reserved

1.2.7. Timbre/Harmonic Intensity 47

	MSB	Description
47	00 - 7F	VOCALOID2 Voice Change Opening

1.2.8. Brightness 4A

	MSB	Description
4A	00 - 7F	VOCALOID2 Voice Change Brightness

1.2.9. Vibrato Rate 4C

Not Used

1.2.10. Vibrato Depth 4D

Not Used (see also 1.2.1 Modulation Wheel)

1.2.11. Vibrato Delay 4E

Not Used

1.2.12. Data Inc/Dec 60/61

	MSB	Description
60	00	Go to next lyric
61	00	Return to previous lyric

1.2.13. NRPN MSB/LSB 63/62

NRPN MSB	NRPN LSB	DataEntry MSB	DataEntry LSB	Description
58	01	00 - 7F	-	00 : Fader mode 01 : Fixed mode Other : reserved
59	01	00	-	Go to head of lyrics
59	02	01- 7F	-	DataEntry MSB : Tab number in Lyrics Edit dialog

1.2.14. RPN LSB/MSB 64/65

Not Used

1.2.15. Mono/Poly mode 7E/7F

	MSB	Description
7E	01	Mono mode on & Poly mode off
7F	00	Poly mode on & Mono mode off

1.3. Program Change Cn

Not Used

1.4. Pitch Bend En

	LSB	MSB	Description
En	00 - 7F	00 - 7F	Pitch Bend

2. System Exclusive Message

Not Used

Zero-G SONIKA – Vocaloid2

VOCAL LIBRARY LICENSE AGREEMENT

IMPORTANT: CAREFULLY READ THIS LICENSE BEFORE USING THE ZERO-G/XFONIC VOCAL LIBRARY INCLUDED ON THIS PRODUCT.

BY USING THE ZERO-G/XFONIC VOCAL LIBRARY YOU ARE AGREEING TO ALL THE TERMS AND CONDITIONS OF THIS ZERO-G/XFONIC END USER LICENSE AGREEMENT, AND YOU AGREE TO BECOME BOUND BY THEM. IF YOU DO NOT ACCEPT THESE TERMS WE ARE UNWILLING TO LICENSE THE USE OF ZERO-G/XFONIC VOCAL LIBRARY TO YOU AND YOU SHOULD NOT USE THE ZERO-G/XFONIC VOCAL LIBRARY.

In addition, by installing, copying, or otherwise using the VOCALOID(TM) software program, you shall be also bound by the terms and conditions of the separate End User License Agreement of the VOCALOID(TM) software program provided by YAMAHA Corporation. This Vocal Library License Agreement ("Agreement") is a legal agreement between you (either an individual or a single entity) and Zero-G Limited/Xfonic Limited ("ZERO-G/XFONIC") for the Zero-G/Xfonic Vocal Library and any upgrades, modified versions or updates of the Zero-G/Xfonic Vocal Library.

DEFINITIONS:
"Zero-G/Xfonic Vocal Library" means the audio material included with this Vocaloid(TM) product derived from recordings made by Xfonic Limited of singing, or any part or component thereof.
"Synthesized Singing" means any audio output produced by this Vocaloid? product which is derived from the included Zero-G/Xfonic Vocal Library.

A. Xfonic Limited ("ZERO-G/XFONIC") continues to own the copy of the Zero-G/Xfonic Vocal Library included on this product and any other copies that you are authorized by this Agreement to make. This license gives you the non-exclusive, non-sub-licensable, non-transferable right to use the Zero-G/Xfonic Vocal Library/Xfonic on the following terms:

B. YOU MAY:
Use one copy of the Zero-G/Xfonic Vocal Library on one single computer and use the Synthesized Singing, subject to all the provisions and conditions of this Agreement. A right to use the enclosed Zero-G/Xfonic Vocal Library is granted to the original purchaser (end-user) of this Vocaloid(TM) product (LICENSEE) only. The Zero-G/Xfonic Vocal Library is "in use" on a computer or other device when it, or any part of it, is loaded into the temporary memory or installed in the permanent memory of that computer or device. The Zero-G/Xfonic Vocal Library may be used together with the included Yamaha(®) Vocaloid(TM) software to generate Synthesized Singing and such Synthesized Singing may be used by LICENSEE for commercial or non-commercial purposes subject to the terms of this License.

C. YOU MAY NOT:
(1) Rent, lend, lease, sell, assign, transfer or grant any rights in all or any part of the enclosed Zero-G/Xfonic Vocal Library, or use it (or any part of it) or the Synthesized Singing as a component of any competing software product. All unauthorized giving, trading, lending, renting, re-issuing, re-

distributing or re-selling of this product or the Zero-G/Xfonic Vocal Library it contains are expressly prohibited.
(2) Transfer ownership of the CD-ROM(s) included with this product or the Zero-G/Xfonic Vocal Library or programs contained therein. You cannot re-sell or copy the CD-ROM(s). The license to use this product is granted for a single user only. You cannot resell this product as a used product to someone else because this is a non-transferable license of the included Zero-G/Xfonic Vocal Library.
(3) Modify, alter, translate, or create a derivative version of the Zero-G/Xfonic Vocal Library (or any part thereof) for resale or other distribution.
(4) Reproduce or duplicate any part of the Zero-G/Xfonic Vocal Library contained in this product, either as it exists on the included disc(s) or by any means of reformatting, mixing, filtering, re-synthesizing, processing or otherwise editing for use in another product or for resale, or in any way that may enable others to obtain a copy of the Zero-G/Xfonic Vocal Library, without the express written consent of Zero-G/Xfonic Limited.
(5) Use the Zero-G/Xfonic Vocal Library in a mode of operation where the Zero-G/Xfonic Vocal Library is unattended by an operator for any purpose whatsoever, other than for personal use.
(6) Distribute the Zero-G/Xfonic Vocal Library or any part thereof on a public bulletin board, ftp site, World Wide Web site, or distribute it by any other means. You cannot electronically transfer or post the Zero-G/Xfonic Vocal Library or any part thereof to another person or group of persons over the Internet or place it or any part thereof in a computer/sampler network to be accessed by multiple users.
(7) Remove or alter any copyright notices on all copies of the Zero-G/Xfonic Vocal Library.
(8) Offer the Zero-G/Xfonic Vocal Library to clients as part of your recording studio or rental company services, as each person who uses the sounds must be a licensed user.

D. RESTRICTIONS ON USE OF THE SYNTHESIZED SINGING
You may not publish or distribute in any manner Synthesized Singing that includes lyrics which are against public policy of law.
You may not publish or distribute Synthesized Singing that is harmful to the moral rights of any third party including but not limited to the original singer of the Zero-G/Xfonic Vocal Library. In no event will ZERO-G/XFONIC be liable for any and all claims, suits or consequential, incidental or special damages arising from your publishing or distributing Synthesized Singing.

The following types of usage of the Synthesized Singing may require a separate additional license from Zero-G/Xfonic which would be independent of this license Agreement, and End Users who wish to obtain such additional license, which may incur a license fee calculated according to the type of usage, should in the first instance contact Xfonic Limited to discuss their particular requirements.
(a) Use in a commercial Karaoke service/system to provide vocals including but not limited to backing vocals for multiple songs, including use to create commercial Karaoke software, Karaoke hardware, and internet-based Karaoke products systems and services.
(b) Use commercially as telephone ringtones or as audio alerts or signals in telephone or telecommunication equipment, except when used in combination with other musical instruments or sounds within a musical composition.

E. CONTENT
ALL content in or on this product (including audio, graphic, textual or video content) is the property of the applicable content owner and may be protected by applicable copyright law. This License gives you no rights to such content, other than as specified in this Agreement.

F. LIMITED WARRANTY
ZERO-G/XFONIC MAKES NO REPRESENTATIONS ABOUT THE SUITABILITY OF THE Zero-G/Xfonic Vocal Library OR THE SINGING SYNTHESIS THAT CAN BE DERIVED FROM IT OR ABOUT ANY CONTENT OR INFORMATION THAT ZERO-G/XFONIC HAS PROVIDED ON THESE DISC(S), FOR ANY PURPOSE. THE Zero-G/Xfonic Vocal Library IS PROVIDED "AS IS" WITHOUT EXPRESS OR IMPLIED WARRANTIES, INCLUDING WARRANTIES OF SATISFACTORY QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK ARISING OUT OF USE OR PERFORMANCE OF THE Zero-G/Xfonic Vocal Library REMAINS WITH YOU. ZERO-G/XFONIC DOES NOT AND CANNOT WARRANT THE PERFORMANCE OR RESULTS YOU MAY OBTAIN BY USING THE Zero-G/Xfonic Vocal Library OR DOCUMENTATION. THIS WARRANTY IS GIVEN IN LIEU OF ALL WARRANTIES, CONDITIONS, TERMS, UNDERTAKINGS AND OBLIGATIONS IMPLIED BY STATUTE, COMMON LAW, CUSTOM, TRADE USAGE, AND COURSE OF DEALING OR OTHERWISE, ALL OF WHICH ARE HEREBY EXCLUDED BY THE FULLEST EXTENT PERMITTED BY LAW.

G. LIMITATION OF LIABILITY
NEITHER ZERO-G/XFONIC NOR ITS SUPPLIERS, DEALERS, DISTRIBUTORS, AGENTS OR EMPLOYEES, WILL BE LIABLE FOR (a) ANY INDIRECT, CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES OF ANY SORT, SUCH AS DAMAGES FOR LOST PROFITS, BUSINESS INTERRUPTION OR LOSS OF DATA ARISING OUT OF THE USE OF THE Zero-G/Xfonic Vocal Library OR ARISING OUT OF THE USE OF THE SINGING SYNTHESIS GENERATED BY IT, WHETHER OR NOT ZERO-G/XFONIC HAS BEEN NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES, OR (b) FOR ANY CLAIM BY ANY OTHER PARTY.

H. GENERAL TERMS
All rights not expressly granted to you hereunder concerning the Zero-G/Xfonic Vocal Library or the Synthesized Singing are reserved by Zero-G/Xfonic Limited. This license is effective until terminated. Failure to comply with any provisions of this license will result in automatic termination of this license and may result in legal action. ZERO-G/XFONIC may terminate this License at any time by delivering notice to you and you may terminate this License at any time by destroying or erasing or uninstalling your copy of the Zero-G/Xfonic Vocal Library. Upon termination, you agree to destroy all copies of the Zero-G/Xfonic Vocal Library in your possession. In the event of termination, the following sections of this License will survive: D, E, F and G. This License is personal to you and you agree not to assign your rights herein. Title, ownership rights, and intellectual property rights in the Zero-G/Xfonic Vocal Library and any copies thereof shall remain in ZERO-G/XFONIC and/or its suppliers. You agree to abide by international copyright law.
The Zero-G/Xfonic Vocal Library is provided with restricted rights. In the event of any conflict between any provision of this Agreement and any applicable law, the provision or provisions of this Agreement affected shall be modified to remove such conflict and permit compliance with such law, and as

so modified this Agreement shall continue in full force and effect. This Agreement shall be governed by the laws of England and shall be subject to the exclusive jurisdiction of the English courts without reference to conflicts of laws principles.

I. ACKNOWLEDGEMENT:
You acknowledge that you have read this LICENSE and Limited Warranty, understand them and agree to be bound by their terms and conditions. You also agree that the LICENSE and Limited Warranty are the complete and exclusive statement between the parties and supersede all other communications between the parties relating to the subject matter of the LICENSE or the Limited Warranty.
ZERO-G(R) is a registered trademark of ZERO-G Ltd. in the UK and/or other countries. XFONIC is a trademark of Xfonic Limited.
YAMAHA(®) and VOCALOID(™) are trademarks or registered trademarks of Yamaha Corporation in Japan and other countries.
Zero-G/Xfonic Ltd constantly monitors other soundware and software releases to check for copyright infringements, and will prosecute all piracy and copyright violations to the fullest extent of the law.
IF YOU HAVE ANY QUESTIONS ABOUT THIS LICENSE OR THIS LIMITED WARRANTY, PLEASE EMAIL OUR CUSTOMER SERVICE DEPARTMENT AT: info@xfonic.com

Copyright ©2009 Xfonic Limited/ZERO-G Limited. All rights reserved.